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I/NATURE AND SCOPE OF MARKETING MANAGEMENT

Marketing Management

1 / *Marketing Management and the Administrative Process*

RALPH WESTFALL AND HARPER W. BOYD, JR.

The administrative process provides a useful framework for the diagnosis and analysis of marketing problems as well as a way of conceptualizing the tasks faced by marketing managers.

The administrative process consists of setting objectives, planning the operations necessary to achieve the objectives, organizing to put the plan into action, putting the plan into action, and controlling the operations in such a way as to know whether or not the objectives are being achieved. The concept of this process provides a useful framework for analysis of the problems facing a marketing manager. It enables the administrator to perceive the total operation of the firm and the relationship of the marketing activities to this totality. It also furnishes him with an orderly sequence of steps by which to think through his job, and it provides a perspective from which he can make a more realistic diagnosis of the day-to-day problems that come across his desk, distinguishing between symptoms and basic problems.

The administrative process is simple to comprehend yet difficult to apply. It involves a way of administrative life and, as such, should permeate the everyday business life of all executives. It is essentially non-quantitative, although quantitative techniques are helpful in "solving" the problems that are involved in its implementation. The process provides a way of taking fragments of information and putting them into categories that in the long run, will provide the executive with data that will facilitate decision making.

SETTING OBJECTIVES

The broad objective of a firm is to make profits, but a company also has responsibilities to the stockholders, the community, and its employees. None of these, however, provides a specific rationale for the firm's existence. Some writers have suggested that management think of its basic objective in terms of the firm's specific products or services, but a more useful approach is to think of a firm's objective in terms of "the niche or part of the market that the company wishes to acquire by offering some product or service. In

SOURCE : From *Cases in Marketing Management* (Homewood, Ill. : Richard D. Irwin, Inc., 1961), pp. 1-6. Ralph Westfall: Professor of Marketing, Northwestern University. Harper W. Boyd, Jr.: Professor of Marketing, Northwestern University.

thinking about a company's objective, in other words, we can go beyond the product or service itself to the kind of demand involved—for example, the demand for finely tailored men's clothes or specific types of food products".[1]

This line of thinking has become known as "the marketing concept" and is well summarised as follows : "Management must think of itself not as producing products but as providing customer-creating value satisfactions. It must push this idea (and everything it means and requires) into every nook and cranny of the organization. It has to do this continuously and with the kind of flair that excites and stimulates the people in it. Otherwise, the company will be merely a series of pigeonholed parts, with no consolidating sense of purpose or direction. In short, the organization must learn to think of itself not as producing goods or services but as buying customers, as doing the things that will make people want to do business with it".[2]

Most firms must confine their basic objective to some particular part or segment of the market. Rarely, if ever, can a firm, regardless of its size, satisfy the needs of all segments comprising the market for a given product. This is particularly true if one thinks in terms of product use as contrasted with specific products or services. Those firms producing for the mass market typically find that they cannot actually produce successfully for all market segments, e.g. they cannot satisfy both the segment demanding low-priced products and the segment demanding highest quality regardless of price. Despite this need to concentrate on a specific market segment, it is essential that management not think too narrowly about the firm's niche, since to do so will prevent management from being perceptive to slow trends that may ultimately erode substantially the need for its product. The case of the railroads and their narrow objective of moving goods and people only over steel rails is a classic example.

Before deciding what niche to aim for, a firm must, of course, know the demands of the various market segments, how competing firms are attempting to satisfy these demands, the resources of the present and potential firms comprising the industry, and its own resources. A realistic accounting of a firm's own resources is difficult, since it includes an appraisal of human resources. Some firms make the mistake of using the resources of the other firms in the industry as a standard for measuring the worth of their own resources. While such a criterion is useful, it is ultimately the needs of the market niche that the firm seeks to fill that determine the value of its resources.

Once the firm has determined a market niche that is consistent with its resources, it is then, and only then, ready to meet the problems of planning,

[1] Edward T. P. Watson, "Diagnosis of Management Problems", *Harvard Business Review,* January-February, 1958, p. 70.

[2] Theodore Levitt, "Marketing Myopia", *Harvard Business Review,* July-August, 1960, p. 56.

organizing, and controlling its operations. The market niche becomes "the broad umbrella that governs the total business life".[3]

PLANNING

Management has the responsibility of developing a program or plan of action that is consistent with the needs of the market niche, the trends and conditions existing in the economic environment within which the firm operates, and the firm's resources. While a firm's total plan encompasses far more than merely the marketing aspects, the major strategies upon which the detailed plans are built are market oriented. It is not easy to categorize these strategies, but a useful (and generally accepted) classification includes four categories: the strategies of product and product line; channels of distribution; advertising, personal selling, and promotion; and pricing.

Each of these strategy categories is very broad; each can be divided and then subdivided into many parts. All are highly interdependent. The product strategy that a firm adopts is conditioned by and in turn influences the other strategies. Putting these various strategies together to obtain the optimum over-all "mix" is one of management's most difficult problems. At any one time, one activity may dominate the marketing "mix", causing other activities to be adjusted accordingly. At another time, this activity may be of minor importance. Research and development, for example, may be most important at one point, but later the development of competent channels of distribution may become the most essential need. The ability to adjust to changing conditions is necessary. "Strategy becomes embodied in company policy, and a policy can sometimes become a sacred cow, which succeeding managements hesitate to change either because of a feeling that it is difficult to argue with success or a belief that present trends are fads that will soon disappear".[4]

Once the various strategies have been determined, planning of a different type must be effected. Scheduling or programing must be carried out and provisions made for co-ordination. A marketing program is a continuous activity. It should specify *what* to do, *how* to do it, *when* to do it, and *who* is to do it. It is specific—establishing quantitative forecasts and quotas. It involves the construction of a budget, or a series of budgets, in which sales, margins, and expenses are specified in total and by operating units down to individual salesmen. The plan shows the role to be played by each activity within the marketing department and, where applicable, activities located in other areas of the firm. The construction of a plan will often bring into the open operational inconsistencies that have prevailed in the past; for example, the failure to co-ordinate sales and advertising or the goal of "signing up" certain large outlets without "upgrading" the sales force.

[3] Fred J. Borch, "The Marketing Philosophy as a Way of Business Life", American Management Association, Inc., Marketing Series No. 99, 1957, p. 4.

[4] Watson, *op. cit.*, p. 72.

A marketing plan helps co-ordinate the activities of the marketing department. It fixes responsibility and alerts executives as to what to do and when to do it. It does not insure against failure. Plans must be carried out by people who do not always perform as expected. This may be failure on the part of the operating individuals or failure on the part of the planners to forecast accurately. Conditions in the market also change, so the plan must be considered a flexible instrument, to be changed as changing conditions require. Properly used, there is little doubt that operation according to a marketing plan increases the probability of achieving the marketing objectives.

ORGANIZING

The previously discussed steps in the administrative process—setting the marketing objective and developing the marketing plan—predetermine, to a considerable extent, the organization system of the firm.

> The dominant values in industry have shifted from those of the manufacturing executive to those of the marketing executive. It is the manufacturing executive or engineer who is concerned with the system, who models his organization after the machine, who gets excited about input, output, and feedback, who strives to eliminate human sentiments and values from the work and market place, who strives to develop the one and only system, and who places a premium on standardization. It is the marketing manager who looks out into the external world and views the changing, shifting needs of the market, the relativity of business objectives, the need for flexibility, the importance of constant adjustment, etc. These shifts in organization patterns would appear to represent a shift in occupational dominance and a reintegration of industry in terms of marketing values.[5]

Since the marketing department usually serves as the firm's line of communication with the market, it is essential that the firm's over-all organization provide for a communications system which permits—indeed, encourages—the flow of relevant information from the market as well as to the market and helps the information flow through the marketing department to the various other departments and to top management. One of the most difficult organizational problems is how to co-ordinate the marketing, engineering, and production departments. While the departmental organizational systems can be structured so that they are "plugged into" one another, it is not always possible to overcome the inevitable human weakness that people tend to

[5] David G. Moore, "Marketing Orientation and Emerging Patterns of Management and Organization", in Eugene J. Kelley and William Lazer (eds.), *Managerial Marketing: Perspectives and Viewpoints* (Homewood, Ill.: Richard D. Irwin, Inc., 1957), p. 248.

hear and believe only those things that they *want* to hear and believe. Typically, the marketing department wants many product variations and frequent, quick product changes. Engineering and production tend to favor standardized products and infrequent changes. While this conflict is not without its advantages (a better balance may result from countervailing power), the firm's organization must be such that head-on clashes are detected and differences reconciled quickly.

The organizational system within the marketing department must recognize and establish the proper relationships between line and staff personnel, the scope of each individual's job, the authority system, and the system for controlling the organization over time. Such concepts as centralization versus decentralization; profit centers; and geographic-, customer-, or product-centered organizational breakdowns are important.

There are many dimensions of the organizational system, for example, the organization shown on the chart, the organizational system through which communications flow, the system for exercising authority, the system for control, and others. They are interrelated and changes in any one will inevitably affect the others. The organizational system is one of the most sensitive areas with which management has to contend. Failure by management to adjust the organization to changes in the market or within the firm will quickly lead to organizational problems.

PUTTING THE PLAN INTO ACTION

No matter how complete the definition of objectives, the planning of marketing strategies, and the organizing of activities, nothing happens if these are merely left on paper. The organization must put the plan into action.

The field sales force is one of the main centers of such action. Salesmen must be recruited, trained, supervised, and paid. Plans for these activities are developed in the planning step of the administrative process. Such plans will take into account sales-force needs in view of the objectives. If more salesmen are needed to accomplish the sales objective, the plan will call for this increase. It is in the action step, however, that recruiting activities are begun, actual individuals selected, training programs put on, salesmen sent into the field—inspired, encouraged, or pushed as the case may require.

Advertising programs must also be activated. The advertising personnel, often in conjunction with an advertising agency, develop the actual advertisements to be used, the media in which to place them, and the other promotional activities, such as point-of-purchase advertising materials and special promotions.

The marketing research department determines the projects on which it can work most profitably and then carries out the actual data collection and analysis. Physical distribution of the product must be accomplished.

Stocks are established and maintained at the necessary points, and orders are processed so that shipments arrive on time and intact.

CONTROLLING

The control function consists of following up to determine that the actual operation is proceeding according to plan. No executive can anticipate the future with certainty, and thus there is the probability that events will occur that will necessitate changes in the plan, the organization, or even in the objectives. Management must keep informed on both long-range market trends and short-run changes in the strategies employed by competitors. In another sense, control deals with mistakes; it attempts to identify them, rectify them, and prevent them from recurring.

Standards are an essential part of the control operation, since performance cannot be appraised unless it is measured against some criteria. It is not always possible to measure the performance of parts of the marketing operation, for example, the advertising function. Wherever possible, however, standards must be established; quotas and budgets are common types. They may be broken down by individual salesmen, territories, and products.

Reports are an essential part of the control system. Common reports are those dealing with actual sales versus quotas, brand share within individual markets, consumer brand preferences, attitudes of channels toward the company and its personnel, and cost ratios such as sales expenses to sales. In many companies the marketing research department spends a large part of its time and budget obtaining control information.

Another type of control that is essential is accomplished by personal supervision. Reports will rarely indicate what people are thinking or what their attitudes are. There is no effective substitute for the chief marketing executive's finding out how members of his department think or feel about a given situation through personal contact. Probably the most effective control over people is that which involves anticipating how they will react to a given situation. Once this is known with reasonable certainty, then management can adjust its decisions to utilize the typical reactions to best advantage.

Control leads to reappraisal. If it did not, control would apply solely to the present state of affairs and would not lead to any changes. Thus conceived, control would be a static process. Yet the market-oriented firm is flexible and dynamic, responding in a positive way to the changes in the market place. Reappraisal must be a continuous process whereby management assesses constantly the commitments of the firm's resources to a given set of strategies designed to exploit a given and definable market niche. The administrative process thus becomes an evolving circle in which objectives are changed, and this, in turn, produces a need for a change in the firm's marketing strategies, which in turn presents a need for a change in the organizational system, and so on.

2 / *Business Management as a Total System of Action and the Role of Marketing*

THOMAS A. STAUDT

In this article the author views business as a goal-directed system in which the objectives determine the way in which the resources of the firm are combined in the form of operating systems. The underlying strategies and tactics of the firm must be market oriented since the market holds veto power over the efficient operation of the entire system.

INTRODUCTION

Business management in the present American economy is a highly complex process which cannot be characterized easily in simple terms. Stated as succinctly as possible, however, management involves the planning, organizing, and controlling of a combination of "inputs" to achieve a predetermined series of "outputs". This means that the administrative action of the firm is a goal-directed effort in which the objectives of the firm determine the way in which men, materials, machines, and money are combined in the form of operating systems. From a managerial point of view *the firm is engaged in integrated production* (creation of utility) *to serve most profitably an area of market opportunity.* Markets are the lifeblood of the business: they are its principal source of revenue. It is in meeting the needs and preferences of buyers making up the market that the firm finds the economic justification for its existence. The realization of this viewpoint sharpens the focus substantially of the whole business process. It properly presents marketing as the cornerstone in a managerial philosophy with which to guide the actions of the firm. We have often heard firms characterized as being machine-tool manufacturers, food processors, dress makers, steel fabricators, or heating and air conditioning assemblers. These characterizations are descriptively helpful; but they do not adequately convey the managerial orientation to the firm, for each emphasizes the principal employee activities. Actually, these activities are only preparatory to achieving the main goal of the firm which is profitably serving *markets* in which these products are *consumed.*

SOURCE : From William Lazer and Eugene J. Kelley (eds.), *Managerial Marketing* (Homewood, Ill. : Richard D. Irwin, Inc., 1962), pp. 198-204. Thomas A Staudt: Professor of Marketing, Michigan State University.

PROFITS REFLECT THE EFFECTIVE FUNCTIONING OF THE FIRM AS A WHOLE

If the dominant goal of the enterprise is to serve profitably an area of market opportunity, then those assets and distinctive qualities of the firm which make for lasting competitive superiority must be fully capitalized. In carving a niche for itself in the market, each firm must employ its resources in such a way as to develop a total "personality" for competitive purposes which gives it the greatest economic power and which rivals will find hardest to duplicate. In this mission, all resources of the firm are pertinent, including its research and development talents, engineering skills, production efficiency and know-how, and the effectiveness of its sales organization.

When one thinks of all the factors that can make for *competitive superiority,* it becomes obvious that the operations of the firm as a whole must be considered as primary, rather than the functioning of any one of the parts. Moreover, in striving for profit maximization, management's problem is one of effective integration and combination of all the parts of the enterprise. In this sense, then, it cannot be said that marketing is more important than any other functional part of the firm, anymore than it can be said that the carburetor is a more important part of a gasoline engine than the ignition system. The efficient functioning of the engine depends upon the optimum operation of each of the parts in a mutually dependent way. Translating this notion into management terms, we can think of the firm as consisting of a profit pipeline into one end of which flows a series of inputs ultimately being transformed into a series of outputs at the other end. In between, acting as successive valves or gates in the profit pipeline, are the principal functional phases of operations which account either directly or indirectly for this transformation. For profits, which are the energizing

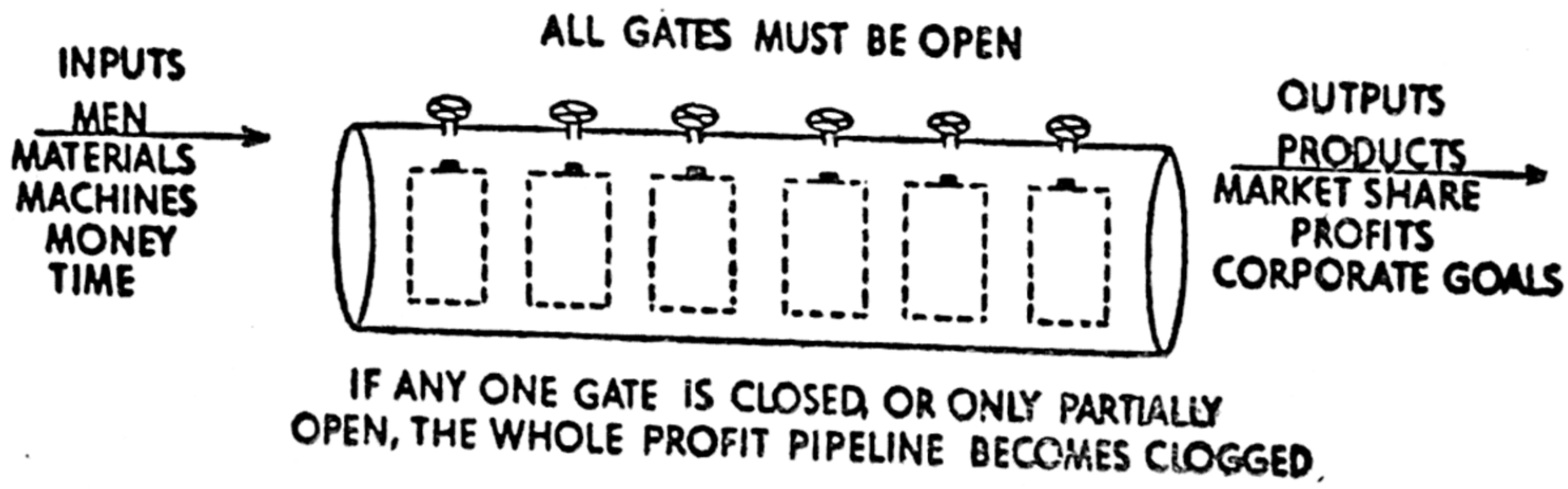


FIG. 1

force within the business, to flow in an optimum way, all gates must be open. Close any one gate and the profit pipeline becomes clogged. Figure 1 is a pictorial illustration of the pipeline.

The operations of most industrial enterprises center around the six principal functional relationships shown in the illustration. Each of these is strategic, and when performance in any one is inferior, the firm as a whole may be incapable of achieving its over-all objectives. A few selected examples will serve to illustrate this point.

The crucial importance for many firms of the research and development area is evidenced by the fact that many companies estimate that a major proportion of their sales in the next ten years will come from products not now in production. American industry more and more is dependent upon technological development for its well-being. Product displacement resulting from scientific research and engineering is more rapid. The profitable length of life of many products is consequently much shorter than once was the case. For instance, in the electronics industry, three years is believed to be a long period of time for any firm to expect to have a preferred technological position with a product before competitors can offer new products with basic improvements. This means that firms are required to spend an increasing number of dollars for research and development, if only for defensive purposes. Successful opportunities to lag continuously in the pertinent technology of the industry are more limited now than ever.

Purchasing can play a very important role in the profit affairs of the firm, particularly where materials account for a large percentage of each sales dollar. For example, in paper making, materials account for about 60 per cent of the total product cost. In 1953, one paper mill had sales in the neighborhood of $ 15 million and profits from operations before taxes of $ 600,000. In that year, however, it was necessary to write down materials in valuation by over half a million dollars, leaving the firm barely above the break-even point for the business as a whole.

The total significance of the personnel management and industrial relations area is becoming better recognized. Human resources are perhaps the most significant resource of any firm—particularly over the longer period. The success of the firm, to a great extent, depends upon the quality of its people and their effective utilization. Indicative of this is the current widespread management interest in executive development programs, to provide able administrators to keep pace with industrial growth and decentralization, and provide a continuous supply of top management personnel. In the industrial relations area, consider the cost to Westinghouse of its 1955 strike. Millions of dollars in profits were lost directly through the shut-down and more millions indirectly before it could recapture its over-all position in the market. To estimate accurately the total real cost of such a strike is almost impossible.

The importance to the firm of sound financial management is obvious. Capital budgeting and financial controls are a normal part of day-to-day operations in any soundly managed enterprise. Moreover, with the current rate of industrial expansion, long-range financial planning is increasingly

essential if growth opportunities are not to be lost. It has been said that the end result sought for any business is financial, and all other activities are merely a means to the end. While such a position overstates the case and is oversimplified, none would deny the key influence to business welfare of good financial planning and control.

Production for many enterprises accounts for the bulk of personnel and the major expenditure of funds. In some industries, such as the manufacturing of fractional horsepower electric motors, the ability to match competitors' costs in automated line production is a prerequisite to any serious competition at all. That production is closely interdependent with marketing should also be noted at this point. Actually, one finds its meaning in the other. The major dichotomy between the two so often found in industry is neither sound nor practical, but this viewpoint will be expanded later on.

The above examples and comments are intended to show that the operations of the firm as a whole must be considered as primary rather than any of its operational parts. The chief executive officer of the company cannot become preoccupied with the overriding importance of any one functional area as compared with another. While some companies are primarily oriented in one particular way—such as soap companies being primarily merchandising organizations and scientific instrument companies being oriented to technical research and engineering—the point still holds: the operations of the firm should be looked at as a total system of action. Consequently, the gasoline engine analogy holds and *in this sense* marketing is no more important than any other principal functional phase of company operations. But there is one overriding and all-powerful consideration with respect to the forces of the market place which provides the focus for management strategy.

MARKET VETO POWER AND MANAGEMENT STRATEGY

While all individual actions taken in the functional areas can be considered as within management discretion, *it is the market which sanctions all the preceding steps prior to the making of a sale.* This is to say that *the market holds at least veto power over the entire system.* What is done in research and development, production design, production scheduling, quality control, inventory control and the like must ultimately meet the test of the market place—do buyers give their approval through allocating their own resources for the purchase of the product in sufficient quantities and at adequate prices? Since this veto power exists and since the firm is organized for the purpose of profitably serving market opportunity it follows that the *strategy and tactics of the firm should be market oriented.*

It is true that value added by manufacturing and distribution flows toward the market place rather than from it. However, just because succeeding steps in a system designed to move products from raw materials into

finished form in the hands of ultimate buyers flows in this direction is no justification for planning and strategy to flow in the same direction. As noted earlier, the whole system of action should constitute goal-directed effort. The synthesis of this point of view is conceptually diagrammed in Figure 2.

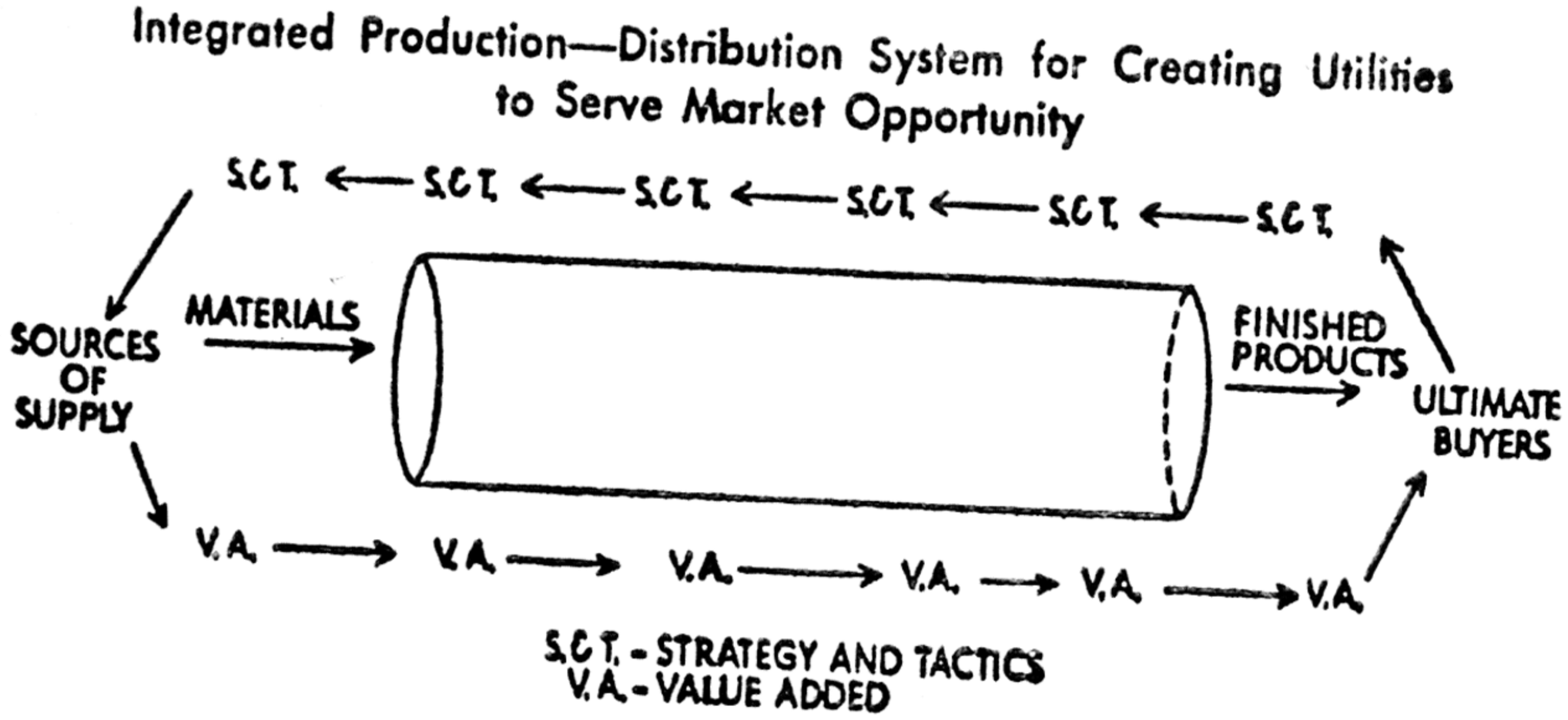


FIG. 2

The flow diagram, Figure 2, shows raw materials (or in whatever state purchased by the firm) entering the enterprise, and through design, equipment, human effort, and organizational systems and procedures being transformed into products destined for ultimate use. The managerially strategic and tactical action underlying the system as a whole is shown to be market oriented, or based on market requirements and specifications. Conviction in this fundamental notion is basic to any soundly managed, mature enterprise in a competitive free market economy. Value added to the product is of course shown to increase with each succeeding phase of operations within the system.

The philosophical objective of this whole system of action is maximum impact at the point of ultimate sale to precipitate purchase action within the boundary of optimum cost and revenue relationships. The qualification is important. Maximizing impact alone is not the objective. Reaching profit maximization is a prime target. This is achieved when impact is greatest, consistent with the total costs of developing that impact, and the revenues that would be forthcoming as a result of the purchase action that flows from it. *Stated differently this means matching total effort with market opportunity.* The effort in terms of manpower and dollars should be only as much as the market justifies. Also, this effort must not only be of the right quantity, but of the right quality and character for greatest market influence. Operationally, this precise point is extremely difficult to determine, much less reach; but it is the model of what is wanted. To approach this mode, an optimum combination of all cost centers wherever they exist is necessary (be they manufacturing or distributive), and the combina-

tion should be focused on market requirements. It is basically less time consuming, and more profitable, for a management to adjust its offering to the market environment, rather than to try to change the market environment to be responsive to what management prefers to supply. The old adage "You can have any color you want so long as it is black" may represent a happy state of affairs for a production executive, but it is out of date as a sound business philosophy as the Model T. Ford to which it was applied.

WHAT IS MARKETING?

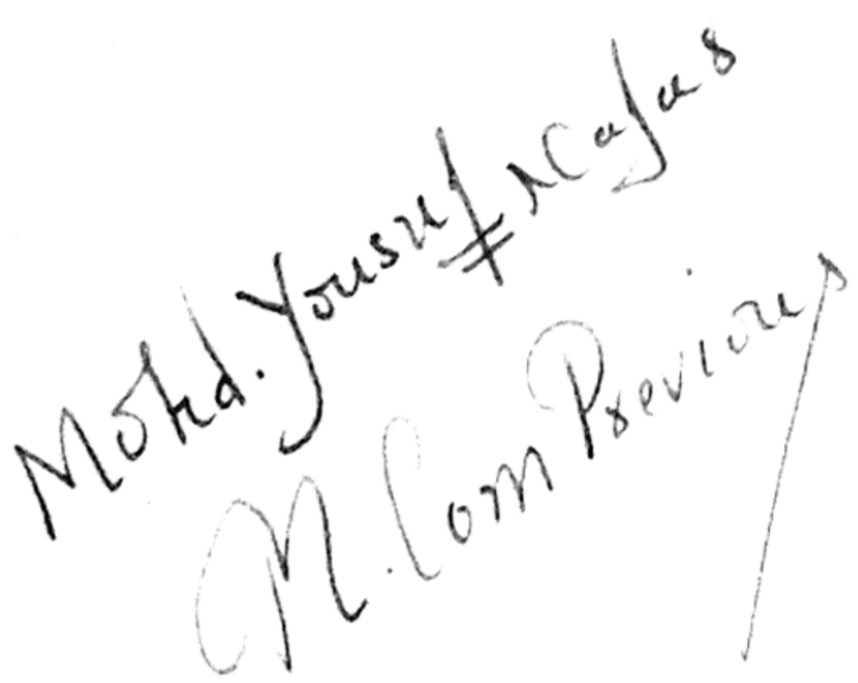
The definition of marketing has been avoided deliberately up to this point because of the necessity for placing the role and function of marketing in the perspective of a total system of action carried on within the firm. The Committee on Definitions of the American Marketing Association defines marketing as "those activities which direct the flow of goods and services from production to consumption". This definition, although widely accepted, places emphasis on the economic role of marketing and does not clearly portray the scope of executive responsibilities for marketing. From a managerial viewpoint, two specific notes of caution are urged in using the definition. First, those charged with marketing responsibilities within the firm dare not think of their job as starting with goods on the shipping platform. Secondly, and at the other end of the spectrum of responsibilities, executives cannot consider their job as finished when the cash register rings at the retail level or point of ultimate sale. Effective and creative marketing encompasses a broader area of activities at either end of the scale.

On the basis of the above discussion, the following conclusions may be drawn:

1. Any business firm is engaged in integrated production (creation of utility) to serve most profitably market opportunity.
2. The functioning of the firm within the concept of a total system of action must be considered as primary, rather than the specific functioning of any one of the parts.
3. Marketing has priority of emphasis within the firm only by virtue of the fact that the market holds veto power over all the other activities carried on within the system.
4. The underlying strategy and tactics of the firm as a whole should be market oriented. Activities carried on within the system as a whole should constitute "goal-directed effort".
5. The objective for marketing, and indirectly for the firm as a whole, is thus one of achieving maximum impact at the point of ultimate sale to precipitate purchase action, within the boundary condition of an

optimum cost and revenue relationship—which means matching total effort with market opportunity.

6. A tremendous premium is placed on accurately defining market requirements and understanding purchase behavior.
7. Cost centers over the system as a whole should be combined in an optimum way within the focus of market targets.
8. In its total mission, and particularly for purposes of reaching its longer term objectives, management should capitalize those qualities and resources within the firm, which give it a total personality that in some way or other makes for competitive superiority and lasting distinctiveness.



Raju
Wishing everybody
best of luck

3 / What is the Marketing Management Concept ?

J. B. McKITTERICK

The marketing concept as a new yet old management philosophy is currently receiving widespread attention from business executives. Why it has evolved to its present state of importance and the problems inherent in its implementation are the subjects of this article.

Anyone who gets a new idea bearing on business philosophy and who then takes the trouble to scan corresponding utterances of preceding generations will return to this thought with increased awareness of its apparent lack of originality. In an attempt to locate the historic significance of this marketing concept that we are going to discuss today, I started reading the 1930 and 1940 issues of the *Journal of Marketing* and the *Harvard Business Review*. To my surprise, I found that many of the viewpoints expressed and the stances advocated on business philosophy bear striking resemblance to current writings. Indeed, what really seems to have changed are the phenomena—the goings on—that the authors cite to validate the importance and rationale of their message. So we have here a not unfamiliar problem in the social sciences; namely that words change their meaning much more slowly than the things to which they refer. This is particularly true of concepts such as profit, overhead, productivity and marketing orientation—which deal not so much with things that happen as with ways of thinking about them.

In order to map changing meanings, it frequently is helpful to superimpose on a history of thought some crude scheme of classification which takes its definitions from the present. If we do this in the case of the marketing concept, we will notice that over the last thirty years the pre-occupation of businessmen with the customer increasingly has been formulated in terms of an end rather than in terms of a means. Correspondingly, the conception of profit as the end objective in business seems to have declined, with a tendency to view it more as a basic condition that must be satisfied. To be sure, thirty years ago businessmen admonished each other to keep the customer's interests in mind, but they usually connected this focus merely with their own need to adjust prices and volume of production to what the market would accept. Indeed, if we read between the lines, we find that

SOURCE : From Frank M. Bass (ed.). *The Frontiers of Marketing Thought and Science* (Chicago, American Marketing Association, 1957), pp. 71-82. J. B. McKitterick : Manager, Marketing Services Research Service, General Electric Company.

the customer used to be the chap that you sent the bill to—frequently a distributor, agent or dealer, but very rarely the actual end user. And sales tactics were conceived in terms of exploiting some scheme that would permit dealing with these trade institutions on a semi-exclusive basis. There was almost no mention of the idea that the manufacturer should focus his attention on the end user, and base his competitive footing on some superiority of value that matched with the needs of a particular group of these users. And it was obvious that few manufacturers felt that they had ability to look at the trade structure as a group of institutions for hire, to be selected and employed to perform specific functions that this end user needed. On the contrary, the trade structure was regarded as an impenetrable barrier—it *was* the market, and this fellow we have been calling the end user was the exclusive problem of the dealer, and no concern of the manufacturer.

Occasionally someone like Oswald Knauth, who has always been a bit ahead of his time, would remind the manufacturer that packaging and product styling had better be customer oriented. But by comparison to these occasional warnings to the man at the helm to keep his eye on what the customer was doing, there were urgent exhortations to the man in the engine room to get more output with less input. Indeed, the problem of winning out over competition seemed to be conceived essentially in terms of subtracting from the costs of production, and delivering an equivalent product at a lower price. So it was quite fitting that in the 1930's manufacturers studied the economics of scale, economists explored marginal concepts for setting the volume of production, and the government tried to prevent the large and efficient firm from sinking its smaller adversaries with the torpedo of lower price. In a short body of remarks it is out of scale to put a generalization such as this to adequate test, yet I cannot entirely resist some elaboration, because the social implications of what we call the marketing concept in the end are going to be of much greater importance than its bearing on management theory.

If we examine the 1920—1940 period, we find that it witnessed great gains in productivity, but not all of these gains were distributed to the labor force. The installed horsepower per production worker almost doubled, and the output per worker more than doubled. However, the average hourly wage in these twenty years increased only from 50¢ to 66¢—not quite a third, and the number of production workers stayed almost constant at around $8\frac{1}{2}$ million members in a population that actually grew by over 20%. So, with rising productivity only to a limited degree passed on to the static body of production workers in the form of wage increases, consumer prices fell steadily until in 1940 they were only 70% of the 1920 level, and unemployment in a growing population was a serious and long continuing problem. During this same period, the design and manner of use of most products changed only slowly, and the gross national product increased a scant 14%.

To sum it up, the business ideology of producing the same product for less cost scarcely turned out to be an adequate driving force for economic growth. While a great deal of criticism was directed at the imperfections of markets organized around administered prices, subsequent events suggest that the real trouble was that most consumers had inadequate income and inadequate reason to buy. In short, productivity gains unevenly accompanied by innovation of new products and broad distribution of purchasing power resulted in a condition of chronic under-consumption.

Starting around 1940, the threat of war and the sponsorship of government combined to introduce a basic transformation in the business process which has had far reaching consequences. In a nutshell, business discovered research. On the eve of this revolution the total research outlay of businessmen stood at perhaps 100 million dollars. Today, these outlays are somewhere around four billions, and for the first time over 50% of all the research done in this country is being paid for by industry out of its own pocket. If we throw in the defense effort which the government pays for, the total research outlay rises to about $7\frac{1}{2}$ billions. However, our interest here is not so much in the growth of this new industry or the sheer size of its burden, which seems likely to surpass the total cost of all advertising; rather we are concerned to learn what research did to the growth of the economy and to the problems of designing and managing an enterprise.

Where the pre-1940 period was preoccupied with trying to make the same product cheaper, the postwar period saw a new dimension added to competition, in which the focus was to try and make the old product better, or even more bold, to try and launch a new product. And as the research-equipped manufacturer looked around for applications for his new-found creative power, he frequently discovered them in markets that he heretofore had not entered. The petroleum refinery began to turn out chemicals; the rubber plant, plastics; new alloys challenged older metals; electronics cast its shadows over hydraulics; and soon, everyone's research and competitive endeavor was attacking someone else's status quo. Established concepts of industry alignment began to obliterate, schemes narrowly conceived to defend market position in terms of price advantage proved inadequate; and managements began to contend with problems of uncertainty that had multiple dimensions. A labor plentiful economy overnight became a labor short economy, and even though the number of employee and production workers has grown 50% since 1940, and their productivity probably another 50%, still the demand for their services has grown even faster, and wages have gone up some 70% in constant dollars. So here we had a reversal of the conditions of the preceding 20 years; worker income rose more rapidly than productivity, competition was focused on using research to obsolete old ways of doing things, a flood of new products poured forth to meet the rising discretionary spending

power, and we became so impressed with the results of focusing on what would be better for the customer rather than merely cheaper that we invented a now familiar phrase—"the marketing concept"—to describe this triumph of innovation over productive capacity.

If we look back on these basic changes in the economy, we find clues to many of the problems which have concerned management science over the last ten years. I refer especially to the constant search for means of planning and control that can contend with these rapidly changing marketing conditions. For example, many businessmen have complained that the problem of predicting the customer's behavior has been greatly complicated both by his rapidly rising discretionary income and by his growing control over the use of leisure time. Mink coats and motor cars, buying things and buying experiences all have begun to interact, and the passing fad and the more slowly changing style of life of which it is a part have become very difficult to diagnose and distinguish. And as we already have noted, the industrial customer with his multiple raw material and process alternatives, and his possibilities of sub-contracting entire operations, swimming all the while in his own competitive sea of changing functions and market alignments, presents an equally fickle target for prediction.

At the same time both the need for and difficulty of business planning have been heightened by technological trends in the production and distribution process. The long term commitments required by automated plants, guaranteed wages, basic research, and multi-million dollar national promotions imply not only irreversible decisions, but also greater lead time, because the assumptions in planning have to hold good over a longer and longer period as the separation between decision and implementation grows apace. The annual budget in many companies has been supplemented with the five year and even the twenty year plan. The very considerable risks entailed in these large resource commitments, combined with the increasing hazards posed by the caprice of the customer and the research efforts of an undefined arena of prospective competitors, have resulted in a powerful urge for diversification. Few businesses today seem to be able to undertake the risk of staying in a single market with a single product. Indeed, observing the pell-mell flight to add new products and markets, one might say that the most characteristic response of modern corporations to uncertainty is to refuse to choose. As new product applications emerge, as new categories of customers come into the market, as new technologies compete to answer the old need, the corporation is inclined to embrace each in turn, forfeiting no opportunity, straddling all risks.

In due course, the organization structure begins to grow like a Christmas tree as the work of decision making is subdivided to take advantage of the specialized information and skills required. The sales executive is joined by the service manager, the product development manager, the

advertising manager, the distribution planning manager, the market research director, and the whole team is duplicated anew as further lines are added. Many decisions become difficult to deal with in such a structure because they straddle the responsibilities of individuals. And when it comes to prepare purposive plans, the business is troubled by its inability to bring its own identity into view—to see entirely its unique resources, skills and commitments, and the whole market environment of which they are a part.

Finally, in analyzing this planning problem and its bearing on the marketing concept, something probably should be said about the decline of the owner-manager. The great size of modern enterprise, the progressive tax structures, and the new-found affluence of even the most lowly worker all have combined to lessen the inclination and ability of individuals to undertake an entrepreneurial role in many markets. Fortunately, the very economic growth which rules out individual enterprise in one area opens up an opportunity for it somewhere else—as in the service industries. But it is my impression that the passing of the entrepreneur, where it has occurred, has removed an important element in the planning process, because he supplied the reason for planning in the sense that he specified the objectives to be attained. Indeed, this entrepreneur made planning easy—if at the same time fickle—by telling people what he wanted to accomplish, and the whole matter was scarcely less personal or more complicated than his choice of a necktie for the day. In the modern corporation we have replaced the owner-manager with a hired management accountable in concept to a diffuse and rapidly changing body of shareholders, but actually in performance quite sensitive to the appraisal of multiple audiences among customers, suppliers, labor, financial institutions, government and the public at large. By degrees, therefore, the decline of perfect competition and the decline of the entrepreneur with his simple conception of objectives are not unrelated events. Today's complex markets with many dimensions of competition have been accompanied by a corresponding multiplication of the values to be reconciled in the policies of modern enterprises.

So to summarize, business management has very difficult planning decisions to make, requiring that it foresee and analyze many alternate developments relating to its customers, competitors, and its own resources, and management must get these decisions made by people who are organized in an enormously complex structure, in which they are aware of the interrelationships of their part and the business, but unable to adequately see the whole business and its environment, and the ends to be served by all these forecasts and decisions are becoming increasingly diffuse and uncertain. It is in this sort of setting that the marketing concept was born, and it is my belief, after reflecting both on the background of the movement and the many statements of the case which businessmen have set forth, that what this really represents is a search for a management philosophy—a primacy of decision values—that can restore order and manageability out of what threatens to seem like chaos.

Indeed, at the risk of introducing controversy, I would speculate that looking back on this development twenty years hence, the marketing concept belatedly will be recognized as an appropriate voicing of the basic purpose of corporate institutions grown too large to be adequately guided by the profit interests of a single compact group of owners. Certainly, anyone who carefully subtracts out of the total expenses of a modern business all of the sums expended on preparation for the future—ranging from research and advertising to new plant and training of personnel—is bound to discover that profit is a feeble measure of the current day's battle with competition, and is certainly meaningless if not considered with reference to accompanying changes in market position. With many companies today operating in conditions of oligopoly, it is small wonder the enlargement of the market and competitive share held in that market have become matters of management concern at least equal if not prerequisite to profit.

Now I want to turn from the general economic conditions and management problems which accompanied the emergency of the marketing concept to a discussion of its implications for business practices. Necessarily, this will be a highly personal statement because it is next to impossible to synthesize into a single theme what others have already set forth on this subject. It does seem to me, however, that the real distinction of the marketing concept which leads to the conclusion "this company has it" or "this one doesn't", is not so much a matter of organization structure or day-to-day tactics as it is a matter of what the management is trying to accomplish.

A moment ago I referred to the shifting focus of objectives that has characterized the evolution of modern business enterprise—first, from a focus on profit for the owner to a striving for market position and success against competition, and most recently to a focus on growth in which there is a continuing planned effort to enlarge the size of the market. It seems to me that the crux of the marketing concept is expressed in the latter not by depriving its historic competitors of the market position which they already have captured, but by the application of research and insight to the task of creating new markets—indeed, new businesses—then we know that we are dealing with a management that has fully embraced the marketing concept. To be sure, as already has been brought out rather fully, any such endeavor is not without its economic repercussions in other markets and industries, but the very extent of these effects, reaching as they do to far and foreign places, confirms that something more than a minor improvement in the lot of the customer must have occurred. So to say it precisely, a company committed to the marketing concept focuses its major innovative effort on enlarging the size of the market in which it participates by introducing new generic products and services, by promoting new applications for existing products, and by seeking out new classes of customers who heretofore have not used the existing products.

In all cases the word "new" means more than just new to the company in

question. It means "new", period. This is a somewhat more rigorous definition than to merely say that the business must constantly think of the customers' best interests or put supremacy in marketing functions foremost. And I might add that the rigor is deliberate, because only thinking of the customer and mere technical proficiency in marketing both turn out to be inferior hands when played against the company that couples its thoughts with action and actually comes to market with a successful innovation. To be sure, the business that seeks to apply its research and mass production and national promotion prowess to such ambitious notions as doing really new things is going to have to be knowledgeably benign with respect to the customer, and it certainly will reduce its risks to the degree that it is experienced and skillful in its marketing organization. But if the product and the service and the way they are sold are fundamentally in the customer's best interests, a great deal of amateurism in marketing tactics can be tolerated without serious consequences. Turning the issue around, if business enterprises are to compete successfully in the quicksilver of modern markets, something more than sophistication in means of doing marketing work is going to be required. Indeed, to plan at all, and think adequately of what competition might do and its possible effects before committing multi-million dollar resources, requires knowledge of the customer which penetrates to the level of theory. *So the principal task of the marketing function in a management concept is not so much to be skillful in making the customer do what suits the interests of the business as to be skillful in conceiving and then making the business do what suits the interests of the customer.* As Frank Knight observed some years ago, in conditions of real uncertainty, the outcome of a venture will be controlled much more by the entrepreneurial decision on what major course of action to undertake than by expert practice in implementation.[1] Thus, the central meaning of the marketing concept to the decision structure of a business is that the major purpose of the venture is taken from the need to solve some problem in the outer environment—some betterment for the customer—and all subsidiary decisions dealing with the acquisition and allocation of resources within the business are bent to that objective. In this light, certain tests can be applied to our daily business practices which sharpen the distinction between the marketing concept and the mere awareness in management that superiority in the marketing function is beginning to be of greater strategic importance than superiority in the production function.

For example, we might ask, is the service of customers or defense against competition the main focus of the creative search for better courses of action? Is the business in the habit of undertaking tactics which pay their way in added sales volume, but which in prompt imitation by competition fail to add to profit? If so, is the overall marketing effort really adding consumable

[1] Frank H. Knight, *Risk, Uncertainty, and Profit* (Boston: Houghton Mifflin Company, 1921).

value for the customer, or only adding cost—as for instance, advertising expenditures which seek to make like products seem unlike, and product redesign which attempts to produce obsolescence without adding to the functions performed by the product? Is the business constantly exhausting itself, trying to hold back changes introduced by its competitors—as when it refuses to recognize a new product technology, a new service, or a new sales channel which the customer seems to prefer? Is foolish pride—as the song-writer puts it—causing the management to reject the verdict of the market-place? Is the business trying to be all things to all customers when their requirements and interests in the product are so fragmenting that some forfeiture of clientele and specialization of customer alignment obviously are needed? Is what the business considers a good salesman essentially a customer oriented man or is he a loyal "company" man, intent on making the customer understand his employer's policies? And finally, is the business using its resources and ability to innovate on tasks that smaller competitors with less overhead can handle better, or is it taxing its capacities to the fullest in undertakings that really challenge it?

These are fairly direct questions, but the answers turn on rather subtle differences in the marketing posture of a company. By and large, it is my observation that concerns which are in an active growth phase will pass this sort of test; those that have slowed down and see themselves as digging in for a defense against younger, more vigorous competitors in time will fail the test. Certainly, anyone who examines the turnover in rankings of the hundred largest corporations, or the turnover in the leadership position in even the smallest markets, cannot fail to see that the graveyards of business are full of those who conceived their obligations to the customer too narrowly.

Now, one might ask, how can the active growth phase of a company be infinitely prolonged? In the end, will not the constant adding of new products, new applications and new users lead to a loss of identity and a nomad-like wandering over the entire market terrain? And how does a company so oriented—or disoriented—respond to the attack of competition? Must every action pass the test of what is truly in the customer's interests? To be sure, these are important questions. But much of the difficulty is removed if we remember that it often is in the interests of both the customer and the company that it abandon a market, that it forego an existing product line and forfeit some present clientele to competition.

Where two groups of product users have different requirements in either the product or the services that go with it, the constant temptation is to suppress these differences, to force homogenization of the requirements, and we all are familiar with examples of the skillful use of price policy, engineering standards, advertising, and product design to such ends. Yet when such an unnatural marriage is challenged by a competitor who selects only one of the two user groups as his intended clientele, a competitor who aligns all his decisions in the interests of that single group and who brings to it a specially

designed product, then the profit position of the company that is straddling the issue is likely to become quite untenable. In the same way, a company may choose to deal with two unrelated markets in a manner that is dictated by the desire to apply some common technology or shared resource of production or distribution. The endeavor in each market being limited by the requirements of the opposite market, this company, too, is vulnerable to a competitor that specializes in only one of these undertakings. So I submit, it is no prescription of dogma but the hard facts of competition that argue for coupling a program of innovation and growth with a sharp pruning knife to cut out the commitments that threaten to compromise the marketing concept. If we all freely admitted our mistakes and were prompt in forfeiting a losing battle to competition, a great deal of pointless advertising could be turned into profit, and a substantial improvement could be worked in sales to other markets where efforts have been less than customer oriented due to the conflicts that have been baked in. Indeed, it is precisely because of this constant need for pruning that companies which were guided by pre-war notions of production efficiency, and which grew along lines of by-product diversification and vertical integration are in the gravest sort of difficulty today. Hence the most cogent argument for designing an industrial enterprise from the customer backward into the factory, rather than from the production process forward, so to speak, is that the success of the venture is becoming much less dependent on its production efficiency and much more dependent on its flexibility in adjusting to the risks posed by the changing requirements of its customers.

In closing now I want to briefly refer to the implications of this marketing concept to the society at large. Recently several provocative viewpoints have been set forth on the threat of under-consumption in our economy. David Riesman has raised the question as to whether business enthusiasm for the defense effort is entirely explained by patriotic and profit considerations. Melman in his recent book has theorized that a substantial part of the productive output of our economy is burned up in the form of administrative overhead—useless labor that we enjoy doing—but which does not lead to further gains in productivity.[2] Several recent books have looked askance at trends in advertising which attempt to subversively guide buying behavior. All in all, there is considerable evidence of a somewhat latent but chronic concern among businessmen with the possibility that we are able to produce more than people will consume. Hence, perhaps we do welcome the creation of markets by the government as a source of stability, and perhaps we are elaborating a style of management and distribution functions that is sort of subconsciously wasteful and antithetical to the interests of the consumer. There are two reasons why even in the presence

[2] Seymour Melman, *Dynamic Factors in Industrial Productivity* (New York: John Wiley & Sons, Inc., 1956).

of scant evidence such trends deserve sober consideration.

In the first place, if, as we all pray, this armed preparedness leads to peace rather than to war, then we will be thrown into an economic contest with Russia in which their political system, through lower labor costs and near equal technology, will battle for our foreign markets. If it turns out that we have built a style of competition and type of business venture in this country that burdens our native genius for manufacturing efficiency with a staggering load of nonproductive overhead and distribution costs, we then may find ourselves a country-island of democracy in a sea of communism. More hopefully, if we conceive of marketing as the work of finding out what the customer would consider a better product and a better way to sell it, and use motivation and all these other new research and communication techniques to help the customer to advise the business on such questions, and if we then apply all of our war-born technology to problems of human betterment, guiding the effort with a marketing concept that insists upon constant innovation—then the heat of competition in our economy will be made to yield up consumable value and real economic growth, and our concern with under-consumption and fear for the outcome of a contest with a state-directed economic system will be pointless in the extreme.

In the second place, there has been a long continuing harangue in Washington over the state of competition in American markets. Administered prices and conditions of oligopoly are deplored as a counterfeit type of competition which resists true economic progress. Ironically, the very same postwar period that heightened these concerns has witnessed the development of an intensive form of competition that has ranged far and wide across the traditional market and industry boundaries. As I see it, the greatest asset of our present industrial structure is that the declining number of companies in each market has been accompanied by an increasing number of markets for each company, so that today, more than ever before, hundreds of American businesses are sufficiently diversified to undertake the great risks of real innovation. In the final analysis, it is the basic purpose of the marketing concept to exploit this risk-taking and product developing capacity, reckoning with all the uncertainties and making a positive virtue out of an economic system that offers the customer a choice, and at that, a choice that is not confined to price alone, but one that explores the full dimensions of the consumption experience.

4 / *Marketing and Economic Development*

PETER F. DRUCKER

Marketing is generally the most neglected area in the economic life of developing countries. It is manufacturing or construction which occupies the greatest attention in these economies.

Yet marketing holds a key position in these countries. Its effectiveness as an engine of economic development with special emphasis on its ability to develop rapidly much needed entrepreneurial and managerial skills needs hardly any elaboration. Because it provides a systematic discipline in a vital area of economic activity it fills one of the greatest needs of a developing economy.

MARKETING AS A BUSINESS DISCIPLINE

The distinguished pioneer of marketing, whose memory we honor today, was largely instrumental in developing marketing as a systematic business discipline:

—In teaching us how to go about, in an orderly, purposeful and planned way to find and create customers;

—To identify and define markets; to create new ones and promote them;

—To integrate customers' needs, wants, and preferences, and the intellectual and creative capacity and skills of an industrial society, towards the design of new and better products and of new distributive concepts and processes.

On this contribution and similar ones of other Founding Fathers of marketing during the last half century rests the rapid emergence of marketing as perhaps the most advanced, certainly the most "scientific" of all functional business disciplines.

But Charles Coolidge Parlin also contributed as a Founding Father toward the development of marketing as a *social discipline.* He helped give us the awareness, the concepts, and the tools that make us understand marketing as a dynamic process of society through which business enterprise is integrated productively with society's purposes and human values. It is in marketing, as we now understand it, that we satisfy individual and social values, needs, and wants—be it through producing goods, supplying services, fostering innovation, or creating satisfaction. Marketing, as we have come to understand it, has its focus on the customer, that is, on the individual making decisions within a social structure and within a personal and social

SOURCE: From *Journal of Marketing,* vol. 22, January, 1958, pp. 252-259. Peter F. Drucker: Professor of Management, New York University.

value system. Marketing is thus the process through which economy is integrated into society to serve human needs.

I am not competent to speak about marketing in the first sense, marketing as a functional discipline of business. I am indeed greatly concerned with marketing in this meaning. One could not be concerned, as I am, with the basic institutions of industrial society in general and with the management of business enterprise in particular, without a deep and direct concern with marketing. But in this field I am a consumer of marketing alone—albeit a heavy one. I am not capable of making a contribution. I would indeed be able to talk about the wants and needs I have which I, as a consumer of marketing, hope that you, the men of marketing, will soon supply: a theory of pricing, for instance, that can serve, as true theories should, as the foundation for actual pricing decisions and for an understanding of price behavior; or a consumer-focused concept and theory of competition. But I could not produce any of these "new products" of marketing which we want. I cannot contribute myself. To use marketing language, I am not even "effective demand," in these fields as yet.

THE ROLE OF MARKETING

I shall today in my remarks confine myself to the second meaning in which marketing has become a discipline: The role of marketing in economy and society. And I shall single out as my focus the role of marketing in the economic development, especially of under-developed "growth" countries.

My thesis is very briefly as follows. Marketing occupies a critical role in respect to the development of such "growth" areas. Indeed marketing is the most important "multiplier" of such development. It is in itself in every one of these areas the least developed, the most backward part of the economic system. Its development, above all others, makes possible economic integration and the fullest utilization of whatever assets and productive capacity an economy already possesses. It mobilizes latent economic energy. It contributes to the greatest needs: that for the rapid development of entrepreneurs and managers, and at the same time it may be the easiest area of managerial work to get going. The reason is that, thanks to men like Charles Coolidge Parlin, it is the most systematized and, therefore, the most learnable and the most teachable of all areas of business management and entrepreneurship.

INTERNATIONAL AND INTERRACIAL INEQUALITY

Looking at this world of ours, we see some essentially new facts.

For the first time in man's history the whole world is united and unified. This may seem a strange statement in view of the conflicts and threats of suicidal wars that scream at us from every headline. But cinflict has always

been with us. What is new is that today all of mankind shares the same vision, the same objective, the same goal, the same hope, and believes in the same tools. This vision might, in gross over-simplification, be called "industrialization".

It is the belief that it is possible for man to improve his economic lot through systematic, purposeful, and directed effort—individually as well as for an entire society. It is the belief that we have the tools at our disposal—the technological, the conceptual, and the social tools—to enable man to raise himself, through his own efforts, at least to a level that we in this country would consider poverty, but which for most of our world would be almost unbelievable luxury.

And this is an irreversible new fact. It has been made so by these true agents of revolution in our times: the new tools of communication—the dirt road, the truck, and the radio, which have penetrated even the furthest, most isolated and most primitive community.

This is new, and cannot be emphasized too much and too often. It is both a tremendous vision and a tremendous danger in that catastrophe must result if it cannot be satisfied, at least to a modest degree.

But at the same time we have a new, unprecedented danger, that of international and interracial inequality. We on the North American continent are a mere tenth of the world population, including our Canadian friends and neighbors. But we have at least 75 per cent of the world income. And the 75 per cent of the world population whose income is below $ 100 per capita a year receive together perhaps no more than 10 per cent of the world's income. This is inequality of income, as great as anything the world has ever seen. It is accompanied by very high equality of income in the developed countries, especially in our where we are in the process of proving that an industrial society does not have to live in extreme tension between the few very rich and the many very poor as lived all earlier societies of man. But what used to be national inequality and economic tension is now rapidly becoming international (and unfortunately also interracial) inequality and tension.

This is also brand new. In the past there were tremendous differences between societies and cultures: in their beliefs, their concepts, their ways of life, and their knowledge. The Frankish knight who went on Crusade was an ignorant and illiterate boor, according to the standards of the polished courtiers of Constantinople or of his Moslem enemies. But economically his society and this were exactly alike. They had the same sources of income, the same productivity of labor, the same forms and channels of investment, the same economic institutions, and the same distribution of income and wealth. Economically the Frankish knight, however much a barbarian he appeared, was at home in the societies of the East; and so was his serf. Both fitted in immediately and without any difficulty.

And this has been the case of all societies that went above the level of purely primitive tribe.

The inequality in our world today, however, between nations and races, is therefore a new—and a tremendously dangerous—phenomenon.

What we are engaged in today is essentially a race between the promise of economic development and the threat of international world-wide class war. The economic development is the opportunity of this age. The class war is the danger. Both are new. Both are indeed so new that most of us do not even see them as yet. But they are the essential economic realities of this industrial age of ours. And whether we shall realize the opportunity or succumb to danger will largely decide not only the economic future of this world—it may largely decide its spiritual, its intellectual, its political, and its social future.

SIGNIFICANCE OF MARKETING.

Marketing is central in this new situation. For marketing is one of our most potent levers to convert the danger into the opportunity.

To understand this we must ask: What do we mean by "under-developed"?

The first answer is, of course, that we mean areas of very low income. But income is, after all, a result. It is a result first of extreme agricultural over-population in which the great bulk of the people have to find a living on the land which, as a result, cannot even produce enough food to feed them, let alone produce a surplus. It is certainly a result of low productivity. And both, in a vicious circle, mean that there is not enough capital for investment, and very low productivity of what is being invested—owing largely to misdirection of investment into unessential and unproductive channels.

All this we know today and understand. Indeed we have learned during the last few years a very great deal both about the structure of an under-developed economy and about the theory and dynamics of economic development.

What we tend to forget, however, is that the essential aspect of an "under-developed" economy and the factor the absence of which keeps it "under-developed," is the inability to organize economic efforts and energies, to bring together resources, wants, and capacities, and so to convert a self-limiting static system into creative, self-generating organic growth.

And this is where marketing comes in.

Lack of Development in "Under-developed" Countries

(1) First, in every "under-developed" country I know of, marketing is the most under-developed—or the least developed—part of the economy, if only because of the strong, pervasive prejudice against the "middleman".

As a result, there countries are stunted by inability to make effective use of the little they have. Marketing might by itself go far toward changing the entire economic tone of the existing system—without any change in methods of production, distribution of population, or of income.

It would make the producers capable of producing marketable products by providing them with standards, with quality demands, and with specifications for their product. It would make the product capable of being brought to markets instead of perishing on the way. And it would make the consumer capable of discrimination, that is, of obtaining the greatest value for his very limited purchasing power.

In every one of these countries, marketing profits are characteristically low. Indeed the people engaged in marketing barely eke out a subsistence living. And "mark-ups" are minute by our standards. But marketing costs are outrageously high. The waste in distribution and marketing, if only from spoilage or from the accumulation of unsalable inventories that clog the shelves for years, has to be seen to be believed. And marketing service is by and large all but non-existent.

What is needed in any "growth" country to make economic development realistic, and at the same time produce a vivid demonstration of what economic development can produce, is a marketing system:

— A system of physical distribution;
— A financial system to make possible the distribution of goods; and
— Finally actual marketing, that is, an actual system of integrating wants, needs, and purchasing power of the consumer with capacity and resources of production.

This need is largely masked today because marketing is so often confused with the traditional "trader and merchant" of which every one of these countries has more than enough. It would be one of our most important contributions to the development of "under-developed" countries to get across the fact that marketing is something quite different.

It would be basic to get across the triple function of marketing:

— The function of crystallizing and directing demand for maximum productive effectiveness and efficiency;
— The function of guiding production purposefully toward maximum consumer satisfaction and consumer value;
— The function of creating discrimination that then gives rewards to those who really contribute excellence, and that then also penalize the monopolist, the slothful, or those who only want to take but do not want to contribute or to risk.

Utilization by the Entrepreneur

(2) Marketing is also the most easily accessible "multiplier" of managers

and entrepreneurs in an "under-developed" growth area. And managers and entrepreneurs are the foremost need of these countries. In the first place, "economic development" is not a force of nature. It is the result of the action, the purposeful, responsible, risk-taking action, of men as entrepreneurs and managers.

Certainly it is the entrepreneur and manager who alone can convey to the people of these countries an understanding of what economic development means and how it can be achieved.

Marketing can convert latent demand into effective demand. It cannot, by itself, create purchasing power. But it can uncover and channel all purchasing power that exists. It can, therefore, create rapidly the conditions for a much higher level of economic activity than existed before, can create the opportunities for the entrepreneur.

It then can create the stimulus for the development of modern, responsible, professional management by creating opportunity for the producer who knows how to plan, how to organize, how to lead people, how to innovate.

In most of these countries markets are of necessity very small. They are too small to make it possible to organize distribution for a single-product line in any effective manner. As a result, without a marketing organization, many products for which there is an adequate demand at a reasonable price cannot be distributed; or worse, they can be produced and distributed only under monopoly conditions. A marketing system is needed which serves as the joint and common channel for many producers if any of them is to be able to come into existence and to stay in existence.

This means in effect that a marketing system in the "under-developed" countries is the *creator of small business,* is the only way in which a man of vision and daring can become a businessman and an entrepreneur himself. This is thereby also the only way in which a true middle class can develop in the countries in which the habit of investment in productive enterprise has still to be created.

Developer of Standards

(3) Marketing in an "under-developed" country is the developer of standards—of standards for product and service as well as of standards of conduct, of integrity, of reliability, of foresight, and of concern for the basic long-range impact of decisions on the customer, the supplier, the economy, and the society.

Rather than go on making theoretical statements let me point to one illustration: The impact Sears Roebuck has had on several countries of Latin America. To be sure, the countries of Latin America in which Sears operates—Mexico, Brazil, Cuba, Venezuela, Colombia, and Peru—are not "under-developed" in the same sense in which Indonesia or the Congo are "under-developed". Their average income, although very low by our standards, is at least two times, perhaps as much as four or five times, that

of the truly "under-developed" countries in which the bulk of mankind still live. Still in every respect except income level these Latin American countries are at best "developing". And they have all the problems of economic development—perhaps even in more acute form than the countries of Asia and Africa, precisely because their development has been so fast during the last ten years.

It is also true that Sears in these countries is not a "low-price" merchandiser. It caters to the middle class in the richer of these countries, and to the upper middle class in the poorest of these countries. Incidentally, the income level of these groups is still lower than that of the worker in the industrial sector of our economy.

Still Sears is a mass-marketer even in Colombia or Peru. What is perhaps even more important, it is applying in these "under-developed" countries exactly the same policies and principles it applies in this country, carries substantially the same merchandise (although most of it produced in the countries themselves), and applies the same concepts of marketing it uses in Indianapolis or Philadelphia. Its impact and experience are, therefore, a fair test of what marketing principles, marketing knowledge, and marketing techniques can achieve.

The impact of this one American business which does not have more than a mere handful of stores in these countries and handles no more than a small fraction of the total retail business of these countries is truly amazing. In the first place, Sears' latent purchasing power has fast become actual purchasing power. Or, to put it less theoretically, people have begun to organize their buying and to go out for value in what they do buy.

Secondly, by the very fact that it builds one store in one city, Sears forces a revolution in retailing throughout the whole surrounding area. It forces store modernization. It forces consumer credit. It forces a different attitude toward the customer, toward the store clerk, toward the supplier, and toward the merchandise itself. It forces other retailers to adopt modern methods of pricing, of inventory control, of training, of window display, and what have you.

The greatest impact Sears has had, however, is in the multiplication of new industrial business for which Sears creates a marketing channel. Because it has had to sell goods manufactured in these countries rather than import them (if only because of foreign exchange restrictions), Sears has been instrumental in getting established literally hundreds of new manufacturers making goods which, a few years ago, could not be made in the country, let alone be sold in adequate quantity. Simply to satisfy its own marketing needs, Sears has had to insist on standards of workmanship, quality, and delivery—that is, on standards of production management, of technical management, and above all of the management of people—which, in a few short years, have advanced the art and science of management in these countries by at least a generation.

I hardly need to add that Sears is not in Latin America for reasons of

philanthropy, but because it is good and profitable business with extraordinary growth potential. In other words, Sears is in Latin America because marketing is the major opportunity in a "growth economy"—precisely because its absence is a major economic gap and the greatest need.

The Discipline of Marketing

(4) Finally, marketing is critical in economic development because marketing has become so largely systematized, so largely both learnable and teachable. It is the discipline among all our business disciplines that has advanced the furthest.

I do not forget for a moment how much we still have to learn in marketing. But we should also not forget that most of what we have learned so far we have learned in a form in which we can express it in general concepts, in valid principles and, to a substantial degree, in quantifiable measurements. This, above all others, was the achievement of that generation to whom Charles Coolidge Parlin was leader and inspiration.

A critical factor in this world of ours is the learnability and teachability of what it means to be an entrepreneur and manager. For it is the entrepreneur and the manager who alone can cause economic development to happen. The world needs them, therefore, in very large numbers; and it needs them fast.

Obviously this need cannot be supplied by our supplying entrepreneurs and managers, quite apart from the fact that we hardly have the surplus. Money we can supply. Technical assistance we can supply, and should supply more. But the supply of men we can offer to the people in the "underdeveloped" countries is of necessity a very small one.

The demand is also much too urgent for it to be supplied by slow evolution through experience, or through dependence on the emergence of "naturals". The danger that lies in the inequality today between the few countries that have and the great many countries that have not is much too great to permit a wait of centuries. Yet it takes centuries if we depend on experience and slow evolution for the supply of entrepreneurs and managers adequate to the needs of a modern society.

There is only one way in which man has ever been able to short-cut experience, to telescope development, in other words, to *learn something.* That way is to have available the distillate of experience and skill in the form of knowledge, of concepts, of generalization, of measurement— in the form of *discipline,* in other words.

THE DISCIPLINE OF ENTREPRENEURSHIP

Many of us today are working on the fashioning of such a discipline of entrepreneurship and management. Maybe we are further along than most of us realize.

Certainly in what has come to be called "Operation Research and Synthesis" we have the first beginnings of a systematic approach to the entrepreneurial task of purposeful risk-taking and innovation—so far only an approach, but a most promising one, unless indeed we become so enamored with the gadgets and techniques as to forget purpose and aim.

We are at the beginning perhaps also of an understanding of the basic problems of organizing people of diversified and highly advanced skill and judgment together in one effective organization, although again no one so far would, I am convinced, claim more for us than that we have begun at last to ask intelligent questions.

But marketing, although it only covers one functional area in the field, has something that can be called a discipline. It has developed general concepts, that is, theories that explain a multitude of phenomena in simple statements. It even has measurements that record "facts" rather than opinions. In marketing, therefore, we already possess a learnable and teachable approach to this basic and central problem not only of the "under-developed" countries but of all countries. All of us have today the same survival stake in economic development. The risk and danger of international and interracial inequality are simply too great.

Marketing is obviously not a cure-all, not a paradox. It is only one thing we need. But it answers a critical need. At the same time marketing is most highly developed.

Indeed without marketing as the hinge on which to turn, economic development will almost have to take the totalitarian form. A totalitarian system can be defined economically as one in which economic development is being attempted without marketing, indeed as one in which marketing is suppressed. Precisely because it first looks at the values and wants of the individual, and because it then develops people to act purposefully and responsibly—that is, because of its effectiveness in developing a free economy—marketing is suppressed in a totalitarian system. If we want economic development in freedom and responsibility, we have to build it on the development of marketing.

In the new and unprecedented world we live in, a world which knows both a new unity of vision and growth and a new and most dangerous cleavage, marketing has a special and central role to play. This role goes:

— Beyond "getting the stuff out the back door";
— Beyond "getting the most sales with the least cost";
— Beyond "the optimal integration of our values and wants as customers, citizens, and persons, with our productive resources and intellectual achievements"—the role marketing plays in a developed society.

In a developing economy, marketing is, of course, all of this. But in addition, in an economy that is striving to break the age-old bondage of

man to misery, want, and destitution, marketing is also the catalyst for the transmutation of latent resources into actual resources, of desires into accomplishments, and the development of responsible economic leaders and informed economic citizens.

II / EFFECT OF THE MARKET ON THE ACTIVITIES OF THE FIRM

5 / *Rational Behavior and Economic Behavior*

GEORGE KATONA

Proper understanding of consumer behavior is a vital necessity if a firm is to be market-oriented. This paper provides insights into how psychological principles can be of value in analyzing behavior in the market place and understanding rationality. Also, psychology can profit from the study of economic behavior since many aspects of behavior, and among them the problems of rationality, can be studied most fruitfully in the economic field.

While attempts to penetrate the boundary lines between psychology and sociology have been rather frequent during the last few decades, psychologists have paid little attention to the problems with which another sister discipline, economics, is concerned. One purpose of this paper is to arouse interest among psychologists in studies of economic behavior. For that purpose it will be shown that psychological principles may be of great value in clarifying basic questions of economics and that the psychology of habit formation, of motivation, and of group belonging may profit from studies of economic behavior.

A variety of significant problems, such as those of the business cycle or inflation, of consumer saving or business investment, could be chosen for the purpose of such demonstration. This paper, however, will be concerned with the most fundamental assumption of economics, the principle of rationality. In order to clarify the problems involved in this principle, which have been neglected by contemporary psychologists, it will be necessary to contrast the most common forms of methodology used in economics with those employed in psychology and to discuss the role of empirical research in the social sciences.

THEORY AND HYPOTHESES

Economic theory represents one of the oldest and most elaborate theoretical structures in the social sciences. However, dissatisfaction with the achievements and uses of economic theory has grown considerably during the past few decades on the part of economists who are interested in what actually goes on in economic life. And yet leading sociologists and psychologists have recently declared "Economics is today, in a theoretical

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George Katona: Director, Economic Research Program, Survey Research Center, University of Michigan.

sense, probably the most highly elaborated, sophisticated, and refined of the disciplines dealing with action" (**15**, p. 28).[1]

To understand the scientific approach of economic theorists, we may divide them into two groups. Some develop an a priori system from which they deduce propositions about how people *should* act under certain assumptions. Assuming that the sole aim of businessmen is profit maximization, these theorists deduce propositions about marginal revenues and marginal costs, for example, that are not meant to be suited for testing. In developing formal logics of economic action, one of the main considerations is elegance of the deductive system, based on the law of parsimony. A wide gap separates these theorists from economic research of an empirical-statistical type which registers what they call aberrations or deviations, due to human frailty, from the norm set by theory.

A second group of economic theorists adheres to the proposition that it is the main purpose of theory to provide hypotheses that can be tested. This group acknowledges that prediction of future events represents the most stringent test of theory. They argue, however, that reality is so complex that it is necessary to begin with simplified propositions and models which are known to be unreal and not testable.[2] Basic among these propositions are the following three which traditionally have served to characterize the economic man or the rational man:

1. The principle of complete information and foresight. Economic conditions—demand, supply, prices, etc.—are not only given but also known to the rational man. This applies as well to future conditions about which there exists no uncertainty, so that rational choice can always be made. (In place of the assumption of certainty of future developments, we find nowadays more frequently the assumption that risks prevail but the probability of occurrence of different alternatives is known; this does not constitute a basic difference.)

2. The principle of complete mobility. There are no institutional or psychological factors which make it impossible, or expensive, or slow, to translate the rational choice into action.

[1] The quotation is from an introductory general statement signed by T. Parsons, E. A. Shils, G. W. Allport, C. Kluckhohn, H. A. Murray, R. R. Sears, R. C. Sheldon, S. A. Stouffer, and E. C. Tolman. The term "action" is meant to be synonymous with "behavior".

[2] A variety of methods used in economic research differ, of course, from those employed by the two groups of economic theorists. Some research is motivated by dissatisfaction with the traditional economic theory; some is grounded in a systematization greatly different from traditional theory (the most important example of such systematization is national income accounting); some research is not clearly based on any theory; finally, some research has great affinity with psychological and sociological studies.

3. The principle of pure competition. Individual action has no great influence on prices because each man's choice is independent from any other person's choice and because there are no "large" sellers or buyers. Action is the result of individual choice and is not group-determined.

Economic theory is developed first under these assumptions. The theorists then introduce changes in the assumptions so that the theory may approach reality. One such step consists, for instance, of introducing large-scale producers, monopolists, and oligopolists, another of introducing time lags, and still another of introducing uncertainty about the probability distribution of future events. The question raised in each case is this: Which of the original propositions needs to be changed, and in what way, in view of the new assumptions?

The fact that up to now the procedure of gradual approximation to reality has not been completely successful does not invalidate the method. It must also be acknowledged that propositions were frequently derived from unrealistic economic models which were susceptible to testing and stimulated empirical research. In this paper we shall point to a great drawback of this method of starting out with a simplified a priori system and making it gradually more complex and more real—by proceeding in this way one tends to lose sight of important problems and to disregard them.

The methods most commonly used in psychology may appear at first sight to be quite similar to the methods of economics which have just been described. Psychologists often start with casual observations, derive from them hypotheses, test those through more systematic observations, reformulate and revise their hypotheses accordingly, and test them again. The process of hypotheses-observations-hypotheses-observations often goes on with no end in sight. Differences from the approach of economic theory may be found in the absence in psychological research of detailed systematic elaboration prior to any observation. Also, in psychological research, findings and generalizations in one field of behavior are often considered as hypotheses in another field of behavior. Accordingly, in analyzing economic behavior [3] and trying to understand rationality, psychologists can draw on (*a*) the theory of learning and thinking, (*b*) the theory of group belonging, and (*c*) the theory of motivation. This will be done in this paper.

HABITUAL BEHAVIOR AND GENUINE DECISION MAKING

In trying to give noneconomic examples of "rational calculus", economic

[3] The expression "economic behavior" is used in this paper to mean behavior concerning economic matters (spending, saving, investing, pricing, etc.). Some economic theorists use the expression to mean the behavior of the "economic man", that is, the behavior postulated in their theory of rationality.

theorists have often referred to gambling. From some textbooks one might conclude that the most rational place in the world is the Casino in Monte Carlo where odds and probabilities can be calculated exactly. In contrast, some mathematicians and psychologists have considered scientific discovery and the thought processes of scientists as the best examples of rational or intelligent behavior.[4] An inquiry about the possible contributions of psychology to the analysis of rationality may then begin with a formulation of the differences between (*a*) associative learning and habit formation and (*b*) problem solving and thinking.

The basic principle of the first form of behavior is repetition. Here the argument of Guthrie holds: "The most certain and dependable information concerning what a man will do in any situation is information concerning what he did in that situation on its last occurrence" (**4**, p. 228). This form of behavior depends upon the frequency of repetition as well as on its recency and on the success of past performances. The origins of habit formation have been demonstrated by experiments about learning nonsense syllables, lists of words, mazes, and conditioned responses. Habits thus formed are to some extent automatic and inflexible.

In contrast, problem-solving behavior has been characterized by the arousal of a problem or question, by deliberation that involves reorganization and "direction", by understanding of the requirements of the situation, by weighing of alternatives and taking their consequences into consideration and, finally, by choosing among alternative courses of action.[5] Scientific discovery is not the only example of such procedures; they have been demonstrated in the psychological laboratory as well as in a variety of real-life situations. Problem solving results in action which is new rather than repetitive; the actor may have never behaved in the same way before and may not have learned of any others having behaved in the same way.

Some of the above terms, defined and analyzed by psychologists, are also being used by economists in their discussion of rational behavior. In discussion, for example, a manufacturer's choice between erecting or not erecting a new factory, or raising or not raising his prices or output, reference is usually made to deliberation and to taking the consequences

[4] Reference should be made first of all to Max Wertheimer who in his book *Productive Thinking* (**17**) uses the terms "sensible" and "intelligent" rather than "rational". Since we are mainly interested here in deriving conclusions from the psychology of thinking, the discussion of psychological principles will be kept extremely brief (see **6** and **8**, Chaps. 3, 4).

[5] Cf. the following statement by a leading psychoanalyst: "Rational behavior is behavior that is effectively guided by an understanding of the situation to which one is reacting" (**3** p. 16). French adds two steps that follow the choice between alternative goals, namely, commitment to a goal and commitment to a plan to reach a goal.

of alternative choices into consideration. Nevertheless, it is not justified to identify problem-solving behavior with rational behavior. From the point of view of an outside observer, habitual behavior may prove to be fully rational or the most appropriate way of action under certain circumstances. All that is claimed here is that the analysis of two forms of behavior—habitual versus genuine decision making—may serve to clarify problems of rationality. We shall proceed therefore by deriving six propositions from the psychological principles. To some extent, or in certain fields of behavior, these are findings or empirical generalizations; to some extent, or in other fields of behavior, they are hypotheses:

1. Problem-solving behavior is a relatively rare occurrence. It would be incorrect to assume that everyday behavior consistently manifests such features as arousal of a problem, deliberation, or taking consequences of the action into consideration. Behavior which does not manifest these characteristics predominates in everyday life and in economic activities as well.

2. The main alternative to problem-solving behavior is not whimsical or impulsive behavior (which was considered the major example of "irrational" behavior by nineteenth century philosophers). When genuine decision making does not take place, habitual behavior is the most usual occurrence: people act as they have acted before under similar circumstances, without deliberating and choosing.

3. Problem-solving behavior is recognized most commonly as a deviation from habitual behavior. Observance of the established routine is abandoned when in driving home from my office, for example, I learn that there is a parade in town and choose a different route, instead of automatically taking the usual one. Or, to mention an example of economic behavior: Many businessmen have rules of thumb concerning the timing of reorders of merchandise; yet sometimes they decide to place new orders even though their inventories have not reached the usual level of depletion (for instance, because they anticipate price increases), or not to order merchandise even though that level has been reached (because they expect a slump in sales).

4. Strong motivational forces—stronger than those which elicit habitual behavior—must be present to call forth problem-solving behavior. Being in a "crossroad situation", facing "choice points", or perceiving that something new has occurred are typical instances in which we are motivated to deliberate and choose. Pearl Harbor and the Korean aggression are extreme examples of "new" events; economic behavior of the problem-solving type was found to have prevailed widely after these events.

5. Group belonging and group reinforcement play a substantial role in changes of behavior due to problem solving. Many people become aware of the same events at the same time; our mass media provide the same information and often the same interpretation of events to groups of people (to businessmen, trade union members, sometimes to all Americans). Changes

in behavior resulting from new events may therefore occur among very many people at the same time. Some economists (for instance, Lord Keynes, see 9, p. 95) argued that consumer optimism and pessimism are unimportant because usually they will cancel out; in the light of socio-psychological principles, however, it is probable, and has been confirmed by recent surveys, that a change from optimistic to pessimistic attitudes, or vice versa, sometimes occurs among millions of people at the same time.

6. Changes in behavior due to genuine decision making will tend to be substantial and abrupt, rather than small and gradual. Typical examples of action that results from genuine decisions are cessation of purchases or buying waves, the shutting down of plants or the building of new plants, rather than an increase or decrease of production by 5 or 10 per cent.[6]

Because of the preponderance of individual psychological assumptions in classical economics and the emphasis placed on group behavior in this discussion, the change in underlying conditions which has occurred during the last century may be illustrated by a further example. It is related—the author does not know whether the story is true or fictitious—that the banking house of the Rothschilds, still in its infancy at that time, was one of the suppliers of the armies of Lord Wellington in 1815. Nathan Mayer Rothschild accompanied the armies and was present at the Battle of Waterloo. When he became convinced that Napoleon was decisively defeated, he released carrier pigeons so as to transmit the news to his associates in London and reverse the commodity position of his bank. The carrier pigeons arrived in London before the news of the victory became public knowledge. The profits thus reaped laid, according to the story, the foundation to the outstanding position of the House of Rothschild in the following decades.

The decision to embark on a new course of action because of new events was then made by one individual for his own profit. At present, news of a battle, or of change of government, or of rearmament programs, is transmitted in short order by press and radio to the public at large. Businessmen —the manufacturers or retailers of steel or clothing, for instance—usually receive the same news about changes in the price of raw materials or in demand, and often consult with each other. Belonging to the same group means being subject to similar stimuli and reinforcing one another in making decisions. Acting in the same way as other members of one's group or of a reference group have acted under similar circumstances may also occur without deliberation and choice. New action by a few manufacturers will, then, frequently or even usually not be compensated by reverse action on the part of others. Rather the direction in which the economy of an entire country moves—and often the world economy as well

[6] Some empirical evidence supporting these six propositions in the area of economic behavior has been assembled by the Survey Research Center of the University of Michigan (see 8 and also 7).

—will tend to be subject to the same influences.

After having indicated some of the contributions which the application of certain psychological principles to economic behavior may make, we turn to contrasting that approach with the traditional theory of rationality. Instead of referring to the formulations of nineteenth century economists, we shall quote from a modern version of the classical trend of thought. The title of a section in a recent article by Kenneth J. Arrow is "The Principle of Rationality". He describes one of the criteria of rationality as follows: "We can imagine the individual as listing, once and for all, all conceivable consequences of his actions in order of his preference for them" (**1**, p. 135). We are first concerned with the expression "all conceivable consequences". This expression seems to contradict the principle of selectivity of human behavior. Yet habitual behavior is highly selective since it is based on (repeated) past experience, and problem-solving behavior likewise is highly selective since reorganization is subject to a certain direction instead of consisting of trial (and error) regarding all possible avenues of action.

Secondly, Arrow appears to identify rationality with consistency in the sense of repetition of the same choice. It is part and parcel of rational behavior, according to Arrow, that an individual "makes the same choice each time he is confronted with the same set of alternatives" (**1**, p. 135).[7] Proceeding in the same way on successive occasions appears, however, a characteristic of habitual behavior. Problem-solving behavior, on the other hand, is flexible. Rationality may be said to reflect adaptability and ability to act in a new way when circumstances demand it, rather than to consist of rigid or repetitive behavior.

Thirdly, it is important to realize the differences between the concepts action, decision, and choice. It is an essential feature of the approach derived from considering problem-solving behavior that there is action without deliberate decision and choice. It then becomes one of the most important problems of research to determine under what conditions genuine decision and choice occur prior to an action. The three concepts are, however, used without differentiation in the classical theory of rationality and also, most recently, by Parsons and Shils. According to the theory of these authors, there are "five discrete choices (explicit or implicit) which every actor makes before he can act" (**15**, p. 78); before there is action "a decision must always be made (explicitly or implicitly, consciously or unconsciously" **15**, p. 89).

There exists, no doubt, a difference in terminology, which may be clarified by mentioning a simple case: Suppose my telephone rings; I lift

[7] In his recent book Arrow adds after stating that the economic man "will make the same decision each time he is faced with the same range of alternatives": "The ability to make consistent decisions is one of the symptoms of an integrated personality" (**2**, p. 2).

the receiver with my left hand and say. "Hello". Should we then argue that I made several choices, for instance, that I decided not to lift the receiver with my right hand and not to say "Mr. Katona speaking"? According to our use of the terms decision and choice, my action was habitual and did not involve "taking consequences into consideration".[8] Parsons and Shils use the terms decision and choice in a different sense, and Arrow may use the terms "all conceivable consequences" and "same set of alternatives" in a different sense from the one employed in this paper. But the difference between the two approaches appears to be more far-reaching. By using the terminology of the authors quoted, and by constructing a theory of rational action on the basis of this terminology, fundamental problems are disregarded. If every action by definition presupposes decision making, and if the malleability of human behavior is not taken into consideration, a one-sided theory of rationality is developed and empirical research is confined to testing a theory which covers only some of the aspects of rationality.

This was the case recently in experiments devised by Mosteller and Nogee. These authors attempt to test basic assumptions of economic theory, such as the rational choice among alternatives, by placing their subjects in a gambling situation (a variation of poker dice) and compelling them to make a decision, namely, to play or not to play against the experimenter. Through their experiments the authors prove that "it is feasible to measure utility experimentally" (**14**, p. 403) but they do not shed light on the conditions under which rational behavior occurs or on the inherent features of rational behavior. Experiments in which making a choice among known alternatives is prescribed do not test the realism of economic theory.

MAXIMIZATION

Up to now we have discussed only one central aspect of rationality—means rather than ends. The end of rational behavior, according to economic theory, is maximization of profits in the case of business firms and maximization of utility in the case of people in general.

A few words, first, on maximizing profits. This is usually considered the simpler case because it is widely held (*a*) that business firms are in business to make profits and (*b*) that profits, more so than utility, are a quantitative, measurable concept.

[8] If I have reason not to make known that I am at home, I may react to the ringing of the telephone by fright, indecision, and deliberation (should I lift the receiver or let the telephone ring?) instead of reacting in the habitual way. This is an example of problem-solving behavior characterized as deviating from habitual behavior. The only example of action mentioned by Parsons and Shils, "a man driving his automobile to a lake to go fishing", may be habitual or may be an instance of genuine decision making.

When empirical research, most commonly in the form of case studies, showed that businessmen frequently strove for many things in addition to profits or in place of profits, most theorists were content with small changes in their systems. They redefined profits so as to include long-range profits and what has been called nonpecuniary or psychic profits. Striving for security or for power was identified with striving for profits in the more distant future; purchasing goods from a high bidder who was a member of the same fraternity as the purchaser, rather than from the lowest bidder—to cite an example often used in textbooks—was thought to be maximizing of nonpecuniary profits. Dissatisfaction with this type of theory construction is rather widespread. For example, a leading theorist wrote recently:

> If *whatever* a businessman does is explained by the principle of profit maximization—because he does what he likes to do, and he likes to do what maximizes the sum of his pecuniary and non-pecuniary profits—the analysis acquires the character of a system of definitions and tautologies, and loses much of its value as an explanation of reality (**13**, p. 526).

The same problem is encountered regarding maximization of utility. Arrow defines rational behavior as follows: "...among all the combinations of commodities an individual can afford, he chooses that combination which maximizes his utility or satisfaction" (**1**, p. 135) and speaks of the "traditional identification of rationality with maximization of some sort" (**2**, p. 3). An economic theorist has recently characterized this type of definition as follows:

> The statement that a person seeks to maximize utility is (in many versions) a tautology: it is impossible to conceive of an observational phenomenon that contradicts it.... What if the theorem is contradicted by observation: Samuelson says it would not matter much in the case of utility theory; I would say that it would not make the slightest difference. For there is a free variable in his system: the tastes of consumers.... Any contradiction of a theorem derived from utility theory can always be attributed to a change of tastes, rather than to an error in the postulates or logic of the theory (**16**, pp. 603 f.).[9]

What is the way out of this difficulty? Can psychology, and specifically the psychology of motivation, help? We may begin by characterizing the prevailing economic theory as a single-motive theory and contrast it with a theory of multiple motives. Even in case of a single decision of one individual, multiplicity of motives (or of vectors or forces in the field),

[9] The quotation refers specifically to Samuelson's definition but also applies to that of Arrow.

some reinforcing one another and some conflicting with one another, is the rule rather than the exception. The motivational patterns prevailing among different individuals making the same decision need not be the same; the motives of the same individual who is in the same external situation at different times may likewise differ. This approach opens the way (*a*) for a study of the relation of different motives to different forms of behavior and (*b*) for an investigation of changes in motives. Both problems are disregarded by postulating a single-motive theory and by restricting empirical studies to attempts to confirm or contradict that theory.

The fruitfulness of the psychological approach may be illustrated first by a brief reference to business motivation. We may rank the diverse motivational patterns of businessmen by placing the striving for high immediate profits (maximization of short-run profits, to use economic terminology; charging whatever the market can bear, to use a popular expression) at one extreme of the scale. At the other extreme we place the striving for prestige or power. In between we discern striving for security, for larger business volume, or for profits in the more distant future. Under what kinds of business conditions will motivational patterns tend to conform with the one or the other end of the scale? Preliminary studies would seem to indicate that the worse the business situation is, the more frequent is striving for high immediate profits, and the better the business situation is, the more frequent is striving for nonpecuniary goals (see **8** pp. 193-213).

Next we shall refer to one of the most important problems of consumer economics as well as of business-cycle studies, the deliberate choice between saving and spending. Suppose a college professor receives a raise in his salary or makes a few hundred extra dollars through a publication. Suppose, furthermore, that he suggests thereupon to his wife that they should buy a television set, while the wife argues that the money should be put in the bank as a reserve against a "rainy day". Whatever the final decision may be, traditional economic theory would hold that the action which gives the greater satisfaction was chosen. This way of theorizing is of little value. Under what conditions will one type of behavior (spending) and under what conditions will another type of behavior (saving) be more frequent? Psychological hypotheses according to which the strength of vectors is related to the immediacy of needs have been put to a test through nationwide surveys over the past six years.[10] On the basis of survey findings the following tentative generalization was established: Pessimism, insecurity, expectation of income declines or bad times in the near future promote saving (putting the extra money in the bank), while

[10] In the Surveys of Consumer Finances, conducted annually since 1946 by the Survey Research Center of the University of Michigan for the Federal Reserve Board and reported in the *Federal Reserve Bulletin*. See also **8** and a forthcoming publication of the Survey Research Center on consumer buying and inflation during 1950-52.

optimism, feeling of security, expectation of income increases, or good times promote spending (buying the television set, for instance).

Psychological hypotheses, based on a theory of motivational patterns which change with circumstances and influence behavior, thus stimulated empirical studies. These studies, in turn, yielded a better understanding of past developments and also, we may add, better predictions of forthcoming trends than did studies based on the classical theory (see footnote 10). On the other hand, when conclusions about utility or rationality were made on an a priori basis, researchers lost sight of important problems. [11]

DIMINISHING UTILITY, SATURATION, AND ASPIRATION

Among the problems to which the identification of maximizing utility with rationality gave rise, the measurability of utility has been prominent. At present the position of most economists appears to be that while interpersonal comparison of several consumers' utilities is not possible, and while cardinal measures cannot be attached to the utilities of one particular consumer, ordinal ranking of the utilities of each individual can be made. It is asserted that I can always say either that I prefer *A* to *B*, or that I am indifferent to having *A* or *B*, or that I prefer *B* to *A*. The theory of indifference curves is based on this assumption.

In elaborating the theory further, it is asserted that rational behavior consists not only of preferring more of the same goods to less ($2 real wages to $1, or two packages of cigarettes to one package, for the same service performed) but also of deriving diminishing increments of satisfaction from successive units of a commodity. [12] In terms of an old textbook example, one drink of water has tremendous value to a thirsty traveler in a desert; a second, third, or fourth drink may still have some value but less and less so; an *n*th drink (which he is unable to carry along) has no value at all. A generalization derived from this principle is that the more of a commodity or the more money a person has, the smaller are his needs for that commodity or for money, and the smaller his incentives to add to what he has.

In addition to using this principle of saturation to describe the behavior of the rational man, modern economists applied it to one of the most pressing problems of contemporary American economy. Prior to World War II the American people (not counting business firms) owned about 45 billion dollars in liquid assets (currency, bank deposit, government bonds) and these funds

[11] It should not be implied that the concepts of utility and maximization are of no value for empirical research. Comparison between maximum utility as determined from the vantage point of an observer with the pattern of goals actually chosen (the "subjective maximum"), which is based on insufficient information, may be useful. Similar considerations apply to such newer concepts as "minimizing regrets" and the "minimax".

[12] This principle of diminishing utility was called a "fundamental tendency of human nature" by the great nineteenth century economist, Alfred Marshall.

were highly concentrated among relatively few families; most individual families held no liquid assets at all (except for small amounts of currency). By the end of the year 1945, however, the personal liquid-asset holdings had risen to about 140 billion dollars and four out of every five families owned some bank deposits or war bonds. What is the effect of this great change on spending and saving? This question has been answered by several leading economists in terms of the saturation principle presented above. "The rate of saving is . . . a diminishing function of the wealth the individual holds" (5, p. 499) because "the availability of liquid assets raises consumption generally by reducing the impulse to cave".[13] More specifically: a person who owns nothing or very little will exert himself greatly to acquire some reserve funds, while a person who owns much will have much smaller incentives to save. Similarly, incentives to increase one's income are said to weaken with the amount of income. In other words, the strength of motivation is inversely correlated with the level of achievement.

In view of the lack of contact between economists and psychologists, it is hardly surprising that economists failed to see the relevance for their postulates of the extensive experimental work performed by psychologists on the problem of levels of aspiration. It is not necessary in this paper to describe these studies in detail. It may suffice to formulate three generalizations as established in numerous studies of goal-striving behavior (see, for example, 12):

1. Aspirations are not static, they are not established once for all time.
2. Aspirations tend to grow with achievement and decline with failure.
3. Aspirations are influenced by the performance of other members of the group to which one belongs and by that of reference groups.

From these generalizations hypotheses were derived about the influence of assets on saving which differed from the postulates of the saturation theory. This is not the place to describe the extensive empirical work undertaken to test the hypotheses. But it may be reported that the saturation theory was not confirmed; the level-of-aspiration theory likewise did not suffice to explain the findings. In addition to the variable "size of liquid-asset holdings," the studies had to consider such variables as income level, income change, and savings habits. (Holders of large liquid assets are primarily people who have saved a high proportion of their income in the past!) [14]

The necessity of studying the interaction of a great number of variables

[13] The last quotation is from the publication of the U.S. Department of Commerce, *Survey of Current Business*, May 1950, p. 10. This quotation and several similar ones are discussed in **8** pp. 186 ff.

[14] The empirical work was part of the economic behavior program of the Survey Research Center under the direction of the author. See **(8)** and also **(10)** and **(11)**.

and the change of choices over time leads to doubts regarding the universal validity of a one-dimensional ordering of all alternatives. The theory of measurement of utilities remains an empty frame unless people's established preferences of *A* over *B* and of *B* over *C* provide indications about their probable future behavior. Under what conditions do people's preferences give us such clues, and under what conditions do they not? If at different times *A* and *B* are seen in different contexts—because of changed external conditions or the acquisition of new experiences—we may have to distinguish among several dimensions.

The problem may be illustrated by an analogy. Classic economic theory postulates a one-dimensional ordering of all alternatives; Gallup assents that answers to questions of choice can always be ordered on a yes-uncertain (don't know)—no continuum; are both arguments subject to the same reservations? Specifically, if two persons give the same answer to a poll question (e.g., both say "Yes, I am for sending American troops to Europe" or "Yes, I am for the Taft-Hartley Act") may they mean different things so that their identical answers do not permit any conclusions about the similarity of their other attitudes and their behavior? Methodologically it follows from the last argument that yes-no questions need to be supplemented by open-ended questions to discern differences in people's level of information and motivation. It also follows that attitudes and preferences should be ascertained through a multi-question approach (or scaling) which serves to determine whether one or several dimensions prevail.

ON THEORY CONSTRUCTION

In attempting to summarize our conclusions about the respective merits of different scientific approaches, we might quote the conclusions of Arrow which he formulated for social science in general rather than for economics:

> To the extent that formal theoretical structures in the social sciences have not been based on the hypothesis of rational behavior, their postulates have been developed in a manner which we may term *ad hoc.* Such proposition... depend, of course on the investigator's intuition and common sense (**1**, p. 137).

The last sentence seems strange indeed. One may argue the other way around and point out that such propositions as "the purpose of business is to make profits" or "the best businessman is the one who maximizes profits" are based on intuition or supposed common sense, rather than on controlled observation. The main problem raised by the quotation concerns the function of empirical research. There exists an alternative to developing an axiomatic system into a full-fledged theoretical model in advance of testing the theory through observations. Controlled observa-

tions should be based on hypotheses, and the formulation of an integrated theory need not be delayed until all observations are completed. Yet theory construction is part of the process of hypothesis-observation-revised hypothesis and prediction-observation, and systematization should rely on some empirical research. The proximate aim of scientific research is a body of empirically-validated generalizations and not a theory that is valid under any and all circumstances.

The dictum that "theoretical structures in the social sciences must be based on the hypothesis of rational behavior" presupposes that it is established what rational behavior is. Yet, instead of establishing the characteristics of rational behavior a priori, we must first determine the conditions a_1, b_1, c_1 under which behavior of the type x_1, y_1, z_1 and the conditions a_2, b_2, c_2 under which behavior of the type x_2, y_2, z_2 is likely to occur. Then, if we wish, we may designate one of the forms of behavior as rational. The contributions of psychology to this process are not solely methodological; findings and principles about noneconomic behavior provide hypotheses for the study of economic behavior. Likewise, psychology can profit from the study of economic behavior because many aspects of behavior, and among them the problems of rationality, may be studied most fruitfully in the economic field.

This paper was meant to indicate some promising leads for a study of rationality, not to carry such study to its completion. Among the problems that were not considered adequately were the philosophical ones (rationality viewed as a value concept), the psychoanalytic ones (the relationships between rational and conscious, and between irrational and unconscious), and those relating to personality theory and the roots of rationality. The emphasis was placed here on the possibility and fruitfulness of studying forms of rational behavior, rather than the characteristics of *the* rational man. Motives and goals that change with and are adapted to circumstances, and the relatively rare but highly significant cases of our becoming aware of problems and attempting to solve them, were found to be related to behavior that may be called truly rational.

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6 / *Toward an Understanding of Human Behavior*

ERNEST DICHTER

Identification of motives as they relate to market behavior is an enormously complicated task because individual motives are intermingled with social forces. For this reason one must be not only concerned with the "whys" of individual behavior, but also with the "whys" of aggregate behavior, and hence with techniques that can be applied to aggregate as well as to individuals.

The search for these motivations involves the use of a great variety of techniques including those from statistics, psychology, economics, sociology, and other social sciences. In this article the author makes a strong case for the use of techniques drawn from the field of psychology to study market-behavior.

When advertiser, agency, and manufacturer turn to research, they really are interested in finding answers which will enable them to sell more of their particular brand of merchandise or service. Usually the manufacturer knows quite a few of the answers and has made quite a few correct moves. Had he not, he could not now afford the services of an agency or a research organization. It is remarkable, when listening to the discussions of the scientific aspects of marketing research and motivational research, how the greater number of the American industrialists could have had the audacity to introduce new products, change the models of their cars, develop new and successful radio and TV programs—in short, develop American industry at a most amazing rate merely on the basis of ingenuity, creativity, and intelligent hunches.

When the manufacturer turns to research, he does so because he looks upon it as one more tool to help him in his daily task of making decisions. Particularly, when he is attempting to reach and influence consumers, whether housewives or purchasing agents, he wants additional information about their behavior, which will permit him to make additional correct moves. He seeks information which will tell him:

1. Who buys his product and who does not.

SOURCE : From Robert Ferber and Hugh G. Wales (eds.), *Motivation and Market Behavior* (Homewood, Ill.: Richard D. Irwin, Inc., 1958), pp. 21-23. Adapted from a talk, "Scientifically Predicting and Understanding Human Behavior," given at the 1955 University of Illinois Marketing Symposium, and reprinted in *Consumer Behavior and Motivation* (Urbana, Ill. : University of Illinois Bureau of Economics and Business Research, 1957), Ernest Dichter : President, Institute of Motivational Research, Inc., Croton-on-Hudson, New York.

2. Who can be sold his product and who cannot.
3. Why people do or do not buy his product.
4. How he can reach more customers with his message most effectively and most economically.
5. What is the future of the market prediction of trends.

For many years the only tool available to the manufacturer was conventional statistical research. The advertiser has gradually come to realize that by using this tool alone he has received only part of the information which he requires to make an intelligent and scientifically based decision. His situation may be compared to that of the medical practitioner who wants to cure a stomach ailment and who has available only an accurate and detailed report on the number of sufferers from stomach ailments in this country, their age, income, diet, and marital status. Much of this information would be very interesting, but only in the most remote fashion would it help the physician to cure stomach ailments.

When the advertiser comes to the market researcher he is interested in finding data which permit him to act, and not academic analyses of the status quo. What does the commercial practitioner need for action data? He needs data of a dynamic nature which gives him an understanding and scientific proof of the real causes of human behavior in the market place.

This, then, is the real and inescapable hurdle which modern market research will have to overcome. No amount of vituperation and emotionality, no attempts to label as unscientific what does not fit in with conventional nomenclature or may not be expressed in decimal points, can replace a calm and truly scientific analysis of this real problem.

If we can, within the ranks of the broad family of researchers, begin to see that different problems require different research solutions, and that our problems, as researchers, *are* different in many crucial ways, then we shall be in a position at last to unite our band around a common scientific philosophy which nevertheless recognizes the utility of different approaches and tools.

No one involved in contemporary business research would deny the desirability of such a unifying development, least of all the consumers of that research, the businessmen themselves. The accusations and counter-accusations currently rampant in research circles represent more than the healthy, "competitive" claims and counterclaims of robust research organizations. Instead, they are signs of a dangerous confusion and unease—an unease which may very well be communicated to the ultimate consumer who simply will not know which (if any!) of these techniques to choose or reject.

The more we do, therefore, within our own family of researchers to dispel these confusions and doubts among our consumers and ourselves, the more

we advance our profession as a whole. It is true that the only kind of research "worth doing" is research that meets the most rigorous canons of scientific accuracy and honesty. But it is also true that science in general, and statistics as its handmaiden, offers many different tools for the solution of the different problems of business research.

DESCRIPTIVE AND DIAGNOSTIC RESEARCH

Business generally has a choice of two types of research: descriptive research, which tells how many did what; and diagnostic research, which tells why what happened did happen. While there is an interrelationship between the two, it is motivational research that provides the tools for creative predictions of consumers' actions in the future and enables the executive to base his advertising and public relations decisions on the pattern of human motivations revealed in the research study.

Studying human motivations is not unlike Herodotus' problem of studying the reason for the inundation of the Nile. By merely observing a person's behavior it is close to impossible to determine why he does what he does. Herodotus approached his problem by picking out, on the basis of previous knowledge, certain elements which he thought were significant. He felt that the distance covered by the flowing waters, the time at which the inundation began, the time at which the overflow reached its maximum, and the fact that there were no winds or breezes at the river surface were all interesting phenomena, although he did not know what they had to do with each other. In this form they were all meaningless facts, not susceptible of interpretation. Why did he pick these facts rather than others? The answer is that he was familiar with certain theories dealing with the behavior of rivers. It was his familiarity with these theories that made him look to factors like wind, snowfall, or evaporation, rather than to the quantity of water or the chemical composition of the water in the Nile.

In the field of human motivations, we approach problems with certain general theories about why people behave as they do. For example, we believe that people are more concerned with their own egos than with other people; that most people suffer from a degree of insecurity and have as one of their main goals in life self-protection against dangers and anxiety. Applying this theory to a specific problem, we develop a hypothesis.

Cohen and Nagel[1] state:

> We cannot take a single step forward in any inquiry unless we begin with a suggested explanation or solution of the difficulty which originated it. Such tentative explanations as suggested to us by something in the subject matter and by our previous knowledge, when they are formulated as pro-

[1] M. R. Cohen and E. Nagel. *An Introduction to Logic and Scientific Method* (New York: Harcourt, Brace and Co., 1942).

positions, are called hypotheses. The function of a hypothesis is to direct our search for the order among facts. The suggestions formulated in the hypotheses may be the solutions to the problem.

THE PROBLEM OF CAUSALITY

From one point of view, motivational research deals with the difficult scientific problem of causation. In the conventional market research study, causation can seldom be established, partly because conventional market research must deal with isolated and principally numerical phenomena, and secondly, because most practitioners of marketing research are not trained to establish psychological relationships between data and behavior. When we say that motivational research is "why" research, we are saying precisely that the gap between the act and the psychometric evidence has been bridged. We are enabled, therefore, to say that this takes place because these things have happened. Causality does not imply a simple cause-and-effect relationship. As a matter of fact, it is because motivational research deals with the totality of factors influencing consumer behavior that we can establish causal relationships. It is the insight brought by this type of study to the businessman or advertising executive which permits him to use motivational research and immediately and effectively translate it. We do not attempt to provide in our studies a table of the frequency with which a particular causal relationship exists in the population as a whole. What we have attempted to establish is the significance of the causal relationship, and not necessarily the frequency of its occurrence. In establishing this causal relationship we bring to bear on the problem, not only findings in the individual study, but also the findings in all of our studies, plus the accumulated knowledge developed by the social sciences.

MULTIPLE FACTORS

It should be emphasized that relationship between cause and effect cannot be attributed to a single, simple, motivational factor. The real problem of motivational research is to analyze, and identify, the variety of interrelated factors which culminate in a particular action. This cannot be done by a simple analysis of the frequency of behavior or the frequency of a typical stylized response to a direct question. The very complexity of human motivations requires the broadest approach to their analysis combined with a rigorous multiple validation which defines and isolates the individual factors.

MOTIVATIONAL RESEARCH IS QUASI-EXPERIMENTAL

Experiments in the laboratory sciences are designed to establish the relationship between variables in a controlled and usually quite isolated

corner of the universe. Usually this corner (the laboratory plus the experimental materials) is most atypical of the universe as a whole. For a physicist wishing to test the magnetism of certain types of steel, there is no question of representativeness: there is no "sampling problem". Why?

Well, for one thing, a "random sample of pieces of steel" would be a most cluttered and disorderly collection of odds and ends, and utterly useless for his purposes, not to mention the fact that it would be fabulously expensive to obtain. What *does* he want, then? He wants good examples, as free of impurities as possible, of the several types of steel about which he has erected hypotheses. How does he get them? He defines his types, and then goes out and gets "good" (that is to say, measurably not a typical) samples of each type.

Now suppose that one of these types is just as frequent in the real world as all of the other types put together. Does he arrange his sample so that half of the steel pieces are of this type? He does not; it would be foolish, and it would certainly blur his results. For the scientific fact is that the rare types are probably more important in his analysis than the common ones.

In applying this general rationale to motivational research, we may, for example, use anywhere from forty to fifty case histories taken from our consumer motivation panel, where we know not only how the individuals behave, but what their histories have been within the normal realistic family and community background. These preliminary steps help to produce a series of meaningful hypotheses which are weighed and checked against all the accumulated knowledge in the field of human motivations. Not unlike a good diagnostician or a detective with many years of experience, we can set forth tentative explanations of why a particular event has taken place.

PSYCHOLOGICAL VARIABLES

In defining our approach to a problem, we seek to establish the major psychological variables which may influence the findings. In a sense, this is an aspect of the development of hypotheses. What we are searching for are psychological and personality elements which may have a dynamic effect on consumers' attitudes toward a product. Such variations will often cut across income, educational, and professional lines. In doing so, we not only take into account such factors as use, nonuse, and frequency of use, but all of the psychological variations which affect the problem.

For example, in a recent study, we established the fact that the consumer may be divided into two groups in terms of his attitudes toward milk. One of these groups was the "milk-involved"; the other was "milk-noninvolved". These were two of the important psychological variables which had a definite relationship to attitudes and feelings toward evaporated milk. It was by developing this psychological variation that our study findings

gained real significance. The analysis of these variables is of extreme importance in understanding the real responses of the population to particular situations. Such factors as adventurousness, insecurity, prejudice, self-indulgence, and so on are often of more significance in determining market responses than such objective factors as income, age, and so forth.

MULTIPLE VALIDATION

The second step of our task is to verify or refute, exclude or reformulate these tentative explanations, and to study them and their varied ramifications. A number of avenues are open for implementing this step, the rigorous statistical testing of our hypotheses. We can conduct depth interviews and do observational studies noting the actual behavior of people. We set up trigger systems of circumstantial evidence, stating that if Hypothesis A is correct, Events 1, 2, 3, 4, and 5 should occur in a particular manner. Then we go out into the field to see if these events do indeed occur and conclude thereby with adequate scientific justification whether Hypothesis A was correct or incorrect.

This second step, the verification or refutation of our hypotheses based on approximately 200 or 250 individual histories, still does not lead to the same kind of variety and numerical accuracy, as for example, ability to distinguish between a brand-recognition index of 68 per cent or 73 per cent, that 2,000 or 5,000 interviews would do. What we have contributed, however, is a really thorough understanding of a basic motivational pattern among a group of people large enough to indicate that the pattern is significant and lends itself to practical applications. In finding that 80 mothers out of 100 reveal, in multiple waves and multiple tests, when talking about food for their babies, that they are as concerned about their own convenience as they are about the nutritional value of the food, we have a finding valid enough to permit any practitioner in advertising or public relations to take advantage of it and act accordingly.

Using various research techniques to test a hypothesis permits multiple and structural validation. A central theory may have a number of subsidiary hypotheses, each of which points to a different corner of the phenomenal world. So, armed with a number of small samples, each of the most efficient size possible, we go out and look in these corners. We use field tests, projective tests, interviewer-administered questionnaires, all kinds of measures—each applied to its own distinct sample of respondents. Then, if supporting tendencies are found in each separate pile of results, we have something much more reliable, scientifically, than one massive sample could have produced.

BASIC MOTIVATIONAL RESEARCH TOOLS

Motivational research employs a gamut of tools, from simple word-

association tests to complex and detailed projective techniques. In all, the basic aim of these various procedures is to develop sufficient information to distinguish rationalization from reason.

The two most important techniques employed by our organization are the depth interview and the projective technique. The depth interview has been much discussed.[2] It is employed to elicit the freest possible associations on the part of the respondent. The respondent himself, for the most part, determines the direction, the order, and the content of the interview. The interviewer must be skilled at developing rapport, inducing the respondent to express himself, and inserting delicate probes, where necessary, to encourage fuller discussion. Scientifically speaking, the depth interview begins at the point where the open-end question used by some conventional research organizations ends. It avoids the interruption of rapport involved in following a set procedure. Instead, by giving the respondent an opportunity to talk about himself, listening sympathetically, and encouraging further self-exploration, the closest kind of rapport can be developed in the course of depth interviewing procedure. The mass of information accumulated by the depth interviewing technique is analyzed for the purpose of determining the *meaning* of the consumer's behavior rather than relying strictly upon her own explanation. In this area, we bring to bear the specialization of the members of our staff in the various branches of the social sciences.

The projective technique is basically a method of inducing the respondent to talk about herself in a disguised form. Where, for example, we may be encountering motivational patterns which are socially unacceptable, the projective technique, in which the respondent interprets a deliberately vague story, photograph, drawing, or design, permits her to attribute her own motives, without feelings of guilt, to some third party. It also permits her to express feelings about the external, which she may not know about herself, yet which are extremely revealing of her own attitudes.

Whenever it is desired and practical, there is no reason why such a pattern cannot be tested on the basis of 5,000 cases. In practice, however, at the end of a study a client will much more frequently accept our recommendation, if it provides him with new insight into his sales and advertising problems.

WHEN ARE MOTIVATIONAL TECHNIQUES SCIENTIFICALLY CORRECT?

The use of motivational research techniques is not just a matter of voluntary decision. There are definite circumstances when motivational

[2] For a clear-cut explanation of the basic approach taken by the depth interview, and the ways in which our organization uses it, see Robert K. Merton, *Mass Persuasion* (New York: Harper and Brothers, 1964).

research techniques are the *only* ones which will produce meaningful results. The use of conventional market research techniques, under these specified circumstances, may be unscientific and misleading.

What are the circumstances in which motivational techniques and projective techniques are indispensable?

1. Whenever the data being sought may not be present at the rational or conscious level.
2. Whenever we are dealing with psychological mechanisms and not with simple static cause-and-effect relationships.
3. Whenever the respondent has a chance to produce interference consciously or unconsciously between the time he understands the question and the time he answers it.

Human motivations are frequently unconscious and represent inter-twined and complicated mechanisms. Modern psychiatry and all other social sciences could not exist without the acceptance of this fact. To explain this position, the really trained modern social scientist with thorough clinical knowledge finds himself in the same position as the researcher who attempts to convince the patient who "is sure he knows what causes his stomach disorders" of the existence of invisible microbes or of mysterious cells which suddenly start growing beyond their intended size and function. It is as difficult for some of us to accept the existence of the often exasperatingly irrational aspects of modern psychoanalytic and social psychological concepts as it may be for the unsophisticated layman to accept the doctor's statement that the headache you complain about really comes from an infection between your toes.

Those criticisms which contend that most social science concepts are contradictory and that no two psychologists can agree between themselves about the interpretation of an observation are of a similar nature. It is true that three doctors might interpret an X-ray differently. This does not prove that there are not ever-growing areas of agreement in the medical and biological sciences and that we should stop sponsoring a cancer institute.

In a recent book, *Psychoanalysis as Science,*[3] a group of scientists set it as their task to establish whether or not psychoanalytic explanations of human behavior could be proven by rigorous experiments. A reading of these experiments is highly recommended.

If the existence of unconscious motivations and their basically dynamic and complex nature is accepted, we have come much closer to answering the question of which research techniques are correct, necessary, and desirable and which ones are not.

It is my view, based upon studies and experiments, as well as the mass

[3] E. Pumpian-Mindlin, ed., *Psychoanalysis as Science* (Stanford: Stanford University Press, 1952).

of psychological scientific literature, that whenever we deal with human motivations, direct questions are not only inadequate, but unscientific and therefore are to be rejected.

The systematic elements of my argument are the following:

1. *Each individual represents a motivational universe.* In order to be able to record scientifically how a population is motivated in respect to a specific phenomenon, we must first fully understand why each individual, as a member of this group, behaves in the way he does. Unless we have arrived at such understanding, no meaningful statement about the motivations of the group can be made. In other words, we have to be clear at the end of a motivational interview why Mrs. Brown buys a particular brand of coffee. This evidence may include a wide variety of contributing factors.

2. *Direct questioning erroneously presupposes objective insight.* "Know thyself" is one of the oldest goals set for the individual. We have come closer to it, but we are still far from achieving this goal. Whenever we are asked why we did what we did, we must analyze our actions and give a correct and insightful answer, often within the limit of a few minutes. Even if no unconscious factors are at work, we are often incapable of choosing, from among the various conflicting motivations of which we may be aware, the one which influenced the resulting action.

3. *Rational explanations and rationalizations.* The human personality does not represent a passive observational field. You cannot simply consider a question as an objective means of discovering what goes on in the consumer's mind. Whenever a question is being asked, an active interpersonal process is instituted. An interviewer or a printed form challenges me, as an objective outsider, to give an account of myself.

Psychology has demonstrated that there are several permanent distortion factors which interfere with the objective observation of the motivational field. The most important one is our desire to appear rational to ourselves and to others. When confronted with an investigation of our motives, we first search actively for rational explanations. The danger is great, however, that this desire to act rationally results in a rationalized answer, a pseudo-rational cause for our behavior.

THE CONCEPT OF "UNIFIED" RESEARCH

Of course motivational research is not a panacea. There is good and bad motivational market research, just as there is good and bad conventional market research. What is needed is a unified concept in research, dealing with the behavior and motives of human beings.

When the advertiser wants to be able to predict the outcome of his actions and asks for help, he is asking for motivational answers. If the advertiser is satisfied with knowing that most people will drink tea when

they are ill, that more people have one car than two cars, use one brand of cereal, or listen to a particular radio or TV show, then the techniques utilized to approximate census figures should be fully satisfactory to him. If the advertiser, however, is not satisfied with finding where his sales are good and where they are bad, but wants to bring about changes, wants to sell a second car to the family, make them buy his brand of cereal, and listen to his TV show, he is invading the field of social sciences and particularly the field of the psychological disciplines, whether he realises it or not.

The moment you are dealing with human beings, their opinions and their emotions, you are in the field of psychology. It is only too true that the social sciences are far from perfect. But this is a complaint that all of us have to live with whether we employ conventional market research or motivational market research.

There is no doubt that motivational market research needs discipline. But it has to be the discipline appropriate to its specific nature as a science. To insist that, because you have to research 2,000 people to know how many people have stomach disorders at a given time, any scientifically proven explanation of the real causes of stomach disorder based on experimentation and an entirely different set of inductive and deductive inferences is invalid, is in itself proof of lack of scientific discipline of a much wider consequence.

Prediction of consumer behavior necessitates first understanding of his behavior today. As an individual reacting, and at the same time influencing the world within which he lives, the motivational researcher is at the same time a participant and a shaper of the future world.

7 / *Motivation, Cognition, Learning— Basic Factors In Consumer Behavior*

JAMES A. BAYTON

Various aspects of motivation, cognition and learning can be used to explain consumer behavior. The author discusses such concepts as ego-involvement, "true" versus rationalized motives, need arousal, the ego-superego concept, reinforcement, and habit. All of these are treated from the point-of-view of the marketing executive who is interested in improving the efficiency of his firm's marketing efforts.

The analysis of consumer behavior presented here is derived from diverse concepts of several schools of psychology—from psychoanalysis to reinforcement theory.

Human behavior can be grouped into three categories—motivation, cognition, and learning. Motivation refers to the drives, urges, wishes, or desires which initiate the sequence of events known as "behavior". Cognition is the area in which all of the mental phenomena (perception, memory, judging, thinking, etc.) are grouped. Learning refers to those changes in behavior which occur through time relative to external stimulus conditions.

Each broad area is pertinent to particular problems of consumer behavior. All three together are pertinent to a comprehensive understanding of consumer behavior.

MOTIVATION

Human Needs

Behavior is initiated through needs. Some psychologists claim that words such as "motives", "needs", "urges", "wishes", and "drives" should not be used as synonyms; others are content to use them interchangeably. There is one virtue in the term "drive" in that it carries the connotation of a force pushing the individual into action.

Motivation arises out of tension-systems which create a state of disequilibrium for the individual. This triggers a sequence of psychological events directed toward the selection of a goal which the individual *anticipates* will bring about release from the tensions and the selection of patterns of action which he *anticipates* will bring him to the goal.

One problem in motivation theory is deriving a basic list of the human

SOURCE : From *Journal of Marketing,* national quarterly publication of the American Marketing Association, vol. 22, January 1958, pp. 282-289. James A Bayton : Projects Manager, National Analysts, Inc.

needs. Psychologists agree that needs fall into two general categories—those arising from tension-systems physiological in nature (biogenic needs such as hunger, thirst, and sex), and those based upon tension-systems existing in the individual's subjective psychological state and in his relation with others (psychogenic needs).

Although there is not much disagreement as to the list of specific biogenic needs, there is considerable difference of opinion as to the list of specific psychogenic needs. However, the various lists of psychogenic needs can be grouped into three broad categories:

(1) *Affectional needs*—the needs to form and maintain warm, harmonious, and emotionally satisfying relations with others.
(2) *Ego-bolstering needs*—the needs to enhance or promote the personality; to achieve; to gain prestige and recognition; to satisfy the ego through domination of others.
(3) *Ego-defensive needs*—the needs to protect the personality; to avoid physical and psychological harm; to avoid ridicule and "loss of face"; to prevent loss of prestige; to avoid or to obtain relief from anxiety.

One pitfall in the analysis of motivation is the assumption that a particular situation involves just one specific need. In most instances the individual is driven by a combination of needs. It seems likely that "love" brings into play a combination of affectional, ego-bolstering, and ego-defensive needs as well as biogenic needs. Within the combination some needs will be relatively strong, others relatively weak. The strongest need within the combination can be called the "prepotent" need. A given consumer product can be defined in terms of the specific need-combination involved and the relative strengths of these needs.

Another pitfall is the assumption that identical behavior have identical motivational backgrounds. This pitfall is present whether we are thinking of two different individuals or the same individual at two different points in time. John and Harry can be different in the motivational patterns leading to the purchase of their suits. Each could have one motivational pattern influencing such a purchase at age twenty and another at age forty.

Ego-Involvement

One important dimension of motivation is the degree of ego-involvement. The various specific need-patterns are not equal in significance to the individual. Some are superficial in meaning; others represent (for the individual) tremendous challenges to the very essence of existence. There is some evidence that one of the positive correlates of degree of ego-involvement is the amount of cognitive activity (judging, thinking, etc.) involved. This means that consumer goods which tap low degrees of ego-involvement will be purchased with a relatively lower degree of conscious decision-making

activity than goods which tap higher degrees of ego-involvement. Such a factor must be considered when decisions are made on advertising and marketing tactics.

At times the ego-involvement factor is a source of conflict between client and researcher. This can occur when research reveals that the product taps a low degree of ego-involvement within consumers. The result is difficult for a client to accept; because *he* is ego-involved and, therefore, cognitively active about his product, consumers must certainly be also. It is hard for such a client to believe that consumers simply do not engage in a great deal of cognitive activity when they make purchases within his product class. One way to ease this particular client-researcher conflict would be for the researcher to point out this implication of the ego-involvement dimension.

"True" and Rationalized Motives

A particular difficulty in the study of motivation is the possibility that there can be a difference between "true" motives and rationalized motives. Individuals sometimes are unaware of the exact nature of drives initiating their behavior patterns. When this occurs, they attempt to account for their behavior through "rationalization" by assigning motivations to their behavior which are acceptable to their personality structures. They may do this with no awareness that they are rationalizing. There can be other instances, however, in which individuals are keenly aware of their motivations, but feel it would be harmful or socially unacceptable to reveal them. When this is the case, they deliberately conceal their motivations.

These possibilities create a problem for the researcher. Must he assume that every behavior pattern is based upon unconscious motivation? If not, what criteria are to be used in deciding whether to be alert to unconscious motivation for this behavior pattern and not that one? What is the relative importance of unconscious motives, if present, and rationalized motives? Should rationalized motives be ignored? After all, rationalized motives have a certain validity for the individual—they are the "real" motives insofar as he is aware of the situation.

The situation is even more complicated than this—what about the dissembler? When the individual actually is dissembling, the researcher must attempt to determine the true motives. But, how shall we determine whether we are faced with a situation where the respondent is rationalizing or dissembling? In a given case, did a projective technique reveal an unconscious motive or the true motive of a dissembler? Conceptually, rationalized motives and dissembled motives are not equal in psychological implication; but it is rare, if ever, that one finds attempts to segregate the two in consumer research directed toward the analysis of motivation. This failure is understandable, to some extent, because of the lack of valid criteria upon which to base the distinction.

COGNITION

Need-Arousal

Motivation, thus, refers to a state of need-arousal—a condition exerting "push" on the individual to engage in those activities which he anticipates will have the highest probability of bringing him gratification of a particular need-pattern. Whether gratification actually will be attained or not is a matter of future events. Central to the psychological activities which now must be considered in the sequence are the complex of "mental" operations and forces known as the cognitive processes. We can view these cognitive processes as being *purposive* in that they serve the individual in his attempts to achieve satisfaction of his needs. These cognitive processes are *regulatory* in that they determine in large measure the direction and particular steps taken in his attempt to attain satisfaction of the initiating needs.

The Ego-Superego Concept

The ego-superego concept is pertinent to a discussion of cognitive activities which have been triggered by needs. Discussions of the ego-superego concept usually come under the heading of motivation as an aspect of personality. It is our feeling that motivation and the consequences of motivation should be kept systematically "clean". In the broadest sense, ego and superego are mental entities in that they involve memory, perceiving, judging, and thinking.

The Ego. The ego is the "executive", determining how the individual shall seek satisfaction of his needs. Through perception, memory, judging, and thinking the ego attempts to integrate the needs, on the one hand, and the conditions of the external world, on the other, in such manner that needs can be satisfied without danger or harm to the individual. Often this means that gratification must be postponed until a situation has developed, or has been encountered, which does not contain harm or danger. The turnpike driver who does not exceed the speed limit because he sees signs saying there are radar checks is under the influence of the ego. So is the driver who sees no cars on a straight stretch and takes the opportunity to drive at excessive speed.

The Superego. The superego involves the ego-ideal and conscience. The ego-ideal represents the positive standards of ethical and moral conduct the individual has developed for himself. Conscience is, in a sense, the "judge", evaluating the ethics and morality of behavior and, through guilt-feelings, administering punishment when these are violated. If a driver obeys the speed limit because he would feel guilty in doing otherwise, he is under the influence of the superego. (The first driver above is under the influence of the ego because he is avoiding a fine, not guilt feelings.)

Specific Examples

Credit is a form of economic behavior based to some extent upon ego-

superego considerations. It is generally felt that one cause of consumer-credit expansion has been a shift away from the superego's role in attitudes toward credit. The past ego-ideal was to build savings; debt was immoral —something to feel guilty about, to avoid, to hide. These two superego influences restrained the use of credit. For some cultural reason, credit and debt have shifted away from superego dominance and are now more under the control of the ego—the primary concern now seems to be how much of it can be used without risking financial danger.

The purchasing of specific consumer goods can be considered from the point of view of these two influences. Certain goods (necessities, perhaps) carry little superego influence, and the individual is psychologically free to try to maximize the probability of obtaining satisfaction of his needs while minimizing the probability of encountering harm in so doing. Other goods, however, tap the superego. When a product represents an aspect of the ego-ideal there is a strong positive force to possess it. Conversely, when a product involves violation of the conscience, a strong negative force is generated against its purchase.

Let us assume that, when the need-push asserts itself, a variety of goal-objects come into awareness as potential sources of gratification. In consumer behavior these goal-objects may be different brand names. The fact that a particular set of goal-objects come into awareness indicates the generic character of this stage in the cognitive process—a class of goal-objects is seen as containing the possible satisfier. What the class of goal-objects and the specific goal-objects within the class "promise" in terms of gratification are known as "expectations".

There are, then, two orders of expectation: generic expectancies, and object-expectancies. Suppose the needs were such that the individual "thought" of brands of frozen orange juice. Some of the generic expectations for frozen orange juice are a certain taste, quality, source of vitamin C, protection against colds, and ease of preparation. The particular brands carry expectations specifically associated with one brand as against another. The expectation might be that brand A has a more refreshing taste than brand B.

In many instances, cognitive competition occurs between two or more generic categories before it does between goal-objects within a generic category. Much consumer-behavior research is directed toward the investigation of generic categories—tires, automobiles, appliances, etc. But perhaps not enough attention has been given to the psychological analysis of cognitive competition between generic categories. An example of a problem being studied is the competition between television viewing, movie going and magazine reading. For a particular producer, cognitive competition within the pertinent generic category is usually of more concern than cognitive competition between his generic category and other. The producer

usually wants only an intensive analysis of consumer psychology with respect to the particular generic category of which his product is a member.

Let us now assume that under need-push four alternative goal-objects (brands A, B, C, and D) came into awareness. Why these particular brands and not others? Why are brands E and F absent? An obvious reason for brand E's absence might be that the individual had never been exposed to the fact that brand E exists. He had been exposed to brand F, however. Why is it absent? The problem here is one of memory—a key cognitive process. The producers of brands E and F obviously are faced with different problems.

Two sets of circumstances contain the independent variables that determine whether a given item will be remembered. One is the nature of the experience resulting from actual consumption or utilization of the goal-object. This will be discussed later when we come to the reinforcement theory of learning. The other is the circumstances present on what might be called vicarious exposures to the goal-object—vicarious in that at the time of exposure actual consumption or utilization of the goal-object does not occur. The most obvious example would be an advertisement of the goal-object. Of course, the essential purpose of an advertisement is to expose the individual to the goal-object in such a manner that at some subsequent time it will be remembered readily. The search for the most effective methods of doing this by manipulation of the physical aspects of the advertisement and the appeals used in it is a continuing effort in consumer-behavior research. Finally, for many consumers these two sets of circumstances will be jointly operative. Experiences with the goal-object and subsequent vicarious exposures can coalesce to heighten the memory potential for an item.

Making a Choice

With, say, four brands in awareness, the individual must now make a choice. What psychological factors underlie this choice? The four brands could be in awareness due to the memory factor because they are immediately present in the environment; or some because they are in the environment, and the others because of memory.

The first problem is the extent to which the items are differentiated. The various goal-objects have attributes which permit the individual to differentiate between them. The brand name is one attribute; package another; design still another. These differentiating attributes (from the point of view of the consumer's perceptions) can be called signs or cues. All such signs are not equally important in consumer decisions. Certain of them are depended upon much more than others. For example, in a study of how housewives select fresh oranges, the critical or key signs were thickness of skin, color of skin, firmness of the orange, and presence or absence of "spots" on the skin.

The signs have expectancies associated with them. Package (a sign) can carry the expectancy of quality. Thin-skin oranges carry the expectancy of juice; spots carry the expectancy of poor taste quality and insufficient amount of juice. Often sign-expectancies determined through consumer research are irrelevant or invalid. Signs are irrelevant when they do not represent a critical differentiating attribute of a goal-object. Certain discolorations on oranges have nothing to do with their intrinsic quality. Expectancies are invalid when they refer to qualities that do not in fact exist in association with a particular sign.

The different goal-objects in awareness can be assessed in terms of the extent to which they arouse similar expectancies. This phenomenon of similarity of expectations within a set of different goal-objects is known as generalization. One goal-object (brand A, perhaps), because of its associated expectancies, can be assumed to have maximum appeal within the set of alternative goal-objects. The alternates then can be ordered in terms of how their associated expectancies approximate those of brand A. Is this ordering and the psychological distances between the items of the nature of:

Brand A	Brand A
Brand B	
	or
	Brand B
Brand C	Brand C

These differences in ordering and psychological distance are referred to as generalization gradients. In the first case, the expectancies associated with brand B are quite similar to those for brand A, but are not quite as powerful in appeal. Brand C has relatively little of this. In the second case, the generalization gradient is of a different form, showing that brand B offers relatively little psychological competition to brand A. (There will also be generalization gradients with respect to cognitive competition between generic categories.) In addition to the individual producer being concerned about the memory potential of his particular brand, he needs to determine the nature of the generalization gradient for his product and the products of his competitors. Mere ordering is not enough—the "psychological distances" between positions must be determined, also, and the factor determining these distances is similarity of expectancy.

The discussion above was concerned with cognitive processes as they relate to mental representation of goal-objects under the instigation of need-arousal. The items brought into awareness, the differentiating sign-expectancies, and the generalization gradient are the central factors in the particular cognitive field aroused under a given "need-push". One important dimension has not yet been mentioned—instrumental acts. These are acts necessary in obtaining the goal-object and the acts involved in consum-

ing or utilizing it. Examples are: "going downtown" to get to a department store, squeezing the orange to get its juice, ease of entry into service stations, and the operations involved in do-it-yourself house painting.

Instrumental acts can have positive or negative value for the individual. One who makes fewer shopping trips to down-town stores because of traffic and parking conditions displays an instrumental act with negative value. Frozen foods are products for which much of the appeal lies in the area of instrumental acts. The development of automatic transmissions and of power-steering in automobiles are examples of product changes concerned with instrumental acts. The point is that concentration upon cognitive reactions to the goal-object, *per se,* could be masking critical aspects of the situation based upon cognitive reactions to the instrumental acts involved in obtaining or utilizing the goal-object.

LEARNING

Goal-Object

Starting with need-arousal, continuing under the influence of cognitive processes, and engaging in the necessary action, the individual arrives at consumption or utilization of a goal-object. Using our consumer-behavior illustration, let us say that the consumer bought brand A and is now in the process of consuming or utilizing it. We have now arrived at one of the most critical aspects of the entire psychological sequence. It is with use of the goal-object that degree of gratification of the initial needs will occur.

Reinforcement

When consumption or utilization of the goal-object leads to gratification of the initiating needs there is "reinforcement". If at some later date the same needs are aroused, the individual will tend to repeat the process of selecting and getting to the same goal-object. If brand A yields a high-degree of gratification, then at some subsequent time, when the same needs arise, the consumer will have an increased tendency to select brand A once again. Each succeeding time that brand A brings gratification, further reinforcement occurs, thus further increasing the likelihood that in the future, with the given needs, brand A will be selected.

This type of behavior change—increasing likelihood that an act will be repeated—is learning; and reinforcement is necessary for learning to take place. Continued reinforcement will influence the cognitive processes. Memory of the goal-object will be increasingly enhanced; particular sign-expectancies will be more and more firmly established; and the generalization gradient will be changed in that the psychological distance on this gradient between brand A and the competing brand will be increased.

Habit

One of the most important consequences of continued reinforcement is the influence this has on the extent to which cognitive processes enter the picture at the times of subsequent need-arousal. With continued reinforcement, the amount of cognitive activity decreases; the individual engages less and less in decision-making mental activities. This can continue until, upon need-arousal, the goal-obtaining activities are practically automatic. At this stage there is a habit.

Note this use of the term "habit". One frequently hears that a person does certain things by "*force* of habit", that habit is an initiator of behavioral sequences. Actually habits are not initiating forces in themselves; habits are repeated response patterns accompanied by a minimum of cognitive activity. There must be some condition of need-arousal before the habit-type response occurs. This has serious implications in the field of consumer behavior. The promotional and marketing problems faced by a competitor of brand A will be of one type if purchase behavior for brand A is habitual, of another if this is not true. If the purchase is largely a habit, there is little cognitive activity available for the competitor to "work on".

Frequency of repeating a response is not a valid criterion for determining whether or not a habit exists. An act repeated once a week can be just as much a habit as one repeated several times a day. The frequency of a response is but an index of the frequency with which the particular need-patterns are aroused. Frequency of response also is often used as a measure of the *strength* of a habit. The test of the strength of a habit is the extent to which an individual will persist in an act after it has ceased providing need gratification. The greater this persistence, the stronger was the habit in the first place.

PROBLEM—CONCEPT—RESEARCH

The above views integrate concepts in contemporary psychology which seem necessary for a comprehensive explanation of human behavior, and apply these concepts to the analysis of consumer behavior. Each psychological process touched upon contains areas for further analysis and specification.

Some type of comprehensive theory of human behavior is necessary as a *working tool* to avoid a lack of discipline in attacking problems in consumer behavior. Too frequently a client with a practical problem approaches a researcher with an indication that all that is needed is a certain methodology —depth interviewing, scaling, or projective devices, for example.

The first step should be to take the practical problem and translate it into its pertinent conceptual entities. This phase of the problem raises the question of motivations. Here is a question involving relevance and validity of sign-expectancies. There is a question dealing with a generalization gradient,

etc. Once the pertinent conceptual entities have been identified, and only then, we arrive at the stage of hypothesis formulation. Within each conceptual entity, a relationship between independent and dependent variables is established as a hypothesis to be tested.

Often the relation between conceptual entities must be investigated. For example, what is the effect of continuing reinforcement on a specific generalization gradient? Within the same research project, one psychological entity can be a dependent variable at one phase of the research and an independent variable at another. At one time we might be concerned with establishing the factors associated with differential memory of sign-expectancies. At another time we could be concerned with the influence of remembered sign-expectancies upon subsequent purchase-behavior.

Discipline requires that one turn to methodology only when the pertinent conceptual entities have been identified and the relationships between independent and dependent variables have been expressed in the form of hypotheses. Fundamentally this sequence in the analysis of a problem serves to delimit the methodological possibilities. In any event, the methodologies demanded are those which will produce unambiguous tests of each particular hypothesis put forth. Finally, the results must be translated into the terms of the original practical problem.

We have used the term "discipline" in this phase of our discussion. The researcher must discipline himself to follow the above steps. Some find this a difficult thing to do and inevitably their data become ambiguous. They must resort to improvisation in order to make sense of the result *after* the project is completed. A research project is truly a work of art when the conceptual analysis, the determination of the hypotheses, and the methodologies have been developed in such an "air-tight" sequence that practically all that is necessary is to let the facts speak for themselves.

8/*New Dimension in Consumer Analysis*

HARPER W. BOYD, JR. AND SIDNEY J. LEVY

In order to insure that customers' needs and wants are specified in meaningful detail marketers must think and make decisions in terms of consumption systems in which their products play only a part. Knowledge of the steps involved in such a system should prove of considerable value in helping a firm to innovate as well as do a more effective job in connection with its basic marketing strategies.

In recent years there has been an outpouring of management literature dealing with a subject which has become known as "the marketing concept".[1] This line of thinking has been well summarized by Peter F. Drucker:

"If we want to know what a business is we have to start with its purpose. And its purpose must lie outside of the business itself. In fact, it must lie in society, since a business enterprise is an organ of society. There is only one valid definition of business purpose: to create a customer".[2]

A logical starting point, under this approach, is to concentrate on the *functions* that the product serves in satisfying a customer's needs instead of becoming preoccupied with the physical aspects of the product itself. Phrased in terms of functions, companies sell such things as transportation, nutrition, energy, comfort, self-expression, escape, intellectual development, and conformity; rather than cars, bread, oil, pillows, pens, novels, textbooks, and uniforms.

Certainly, this is a good start. By taking such a conceptual approach, many companies have sharpened their marketing effort by (a) researching and analyzing why customers (or potential customers) buy (or don't buy)

[1] See, for example, Theodore Levitt, "Marketing Myopia", HBR July-August 1960, p. 56; Fred J. Borch, "The Marketing Philosophy as a Way of Business Life", American Management Association Inc., Marketing Series No. 99, 1957; and J. B. Mckitterick, "What is the Marketing Management Concept?" *The Frontiers of Marketing Thought and Science* (Chicago, The American Marketing Association, 1957), pp. 71-82.

[2] *The Practice of Management* (New York, Harper & Brothers, 1954), p. 37.

SOURCE : From *Harvard Business Review,* vol. 41, November-December, 1963, pp. 129-140. Harper W. Boyd, Jr. : Professor of Marketing, Stanford University
Sidney J. Levy : Professor of Marketing, Northwestern University.
AUTHORS' NOTE : We wish to acknowledge the helpful insights contributed by Professor Edward G. Bursk.

particular kinds of products or services, and (b) surveying and identifying particular groups of customers (or potential customers) who differ from one another in why they buy (or don't buy) the products or services in question. Many of the same companies have also used the marketing concept to instill more sense of direction in the non-marketing functions of the business and to unify their over-all organizational effort.

FOR FULL EFFECTIVENESS

But general adoption of a customer orientation is not enough. Such an approach can still fall short of full effectiveness. The trouble is that it does not *ensure* that customers' needs and wants will be understood and spelled out in the comprehensive, meaningful detail that they could and should be.

It is the purpose of this article to point out the value of thinking and making decisions in terms of *consumption systems.* This, we will show, is an effective way to avoid use of generalizations or unrelated specifics, and of achieving more innovation, greater market penetration, and more co-ordinated planning of the total marketing (and corporate) effort.

By the term *consumption system* we mean the way a purchaser of a product performs the total task of whatever it is that he or she is trying to accomplish when using the product—not baking a cake, but preparing a meal; not installing a transmission, but building an automobile.

There are at least three layers of increasingly greater depth in the analysis of customers for full marketing effectiveness:

(1) *Looking beyond purchase behavior to use behavior.* Whatever reasons people have for buying (or not buying) a particular product are clearly rooted in how they use that product; and how well it serves the use to which they put it becomes particularly important at times of repurchase. Here focusing on the consumption system, though this is broader than the use of the particular product, does ensure that the use behavior of the consumer will not be overlooked since it has to be included as part of the consumption system.

(2) *Deliberately studying the total consumption system for the sake of additional insights.* The use behavior for a particular product is bound to be affected not only by the problem to be solved or the task to be performed by the use of that product but also by the related products and related use behaviors that make up the *total* consumption system in which it plays a part; and these effects are subject to marketing applications.

(3) *Analyzing the consumption system in the further detail of the many interrelated subsystems resulting from different kinds of people making different use of the same product or the same use of different products.* Here we can combine market segmentation with consumer motivation for maximum effectiveness. Because these different subsystems reflect the different goals that people have in using products to solve their problems or

perform their tasks, it is possible to pinpoint marketing action to each individual subsystem and/or to reassemble such individual marketing actions into a coordinated master strategy.

Let us now look at these three layers of successively greater depth in more detail. As we shall see, many marketers already look at use behavior, and a number study the consumption system (sometimes without labeling it as such, sometimes in the narrower version of "behavior patterns"); but there are very few, if any, who carry their analysis to the ultimate step of interrelated subsystems.

Use Behavior

Many companies are sophisticated enough to realize that purchases are made not for the sake of the product but of the product's functions—that is, what the product will do in satisfying needs and wants. But unless they actually think in terms of *how* the consumer is using the product, they may slip into the error of taking product-oriented action. And one way of making use orientation inescapable is to think in terms of the consumption system in which the product plays a part. Thus:

A manufacturer of wrist-watches will recognize that he is serving people's needs to know what time it is. Yet he might still concentrate on making his watch simply a better timekeeper for the money, and pay major attention to the accuracy and dependability that lead people to buy or not buy his particular brand or model.

But the customers' need for such features depends, in turn, on the use to which they put watches in actual practice. First of all, what is the problem to be solved or the task to be performed: the scheduling of events, the organization of individual effort, the synchronization of related activities, the meeting of social obligations, or what? Secondly, what other products or services do people use to solve their time problem (e.g. clocks, bells, telephones, other people's actions or statements); and what are the circumstances (light, physical position, degree of hurry, presence of others, nearness of clocks, and so on)? It could turn out, for example, that for most people it is *more* important to be able to read the time quickly and clearly than to have it actually measured to the precise second. In any event, understanding the use behaviors of watch wearers *forces* attention on the product features and selling appeals that will lead to more effective marketing.

Total System

However, if marketers only look at the use behavior for their particular product or service, and do not go on to wring the full meaning out of the way that product fits into the total consumption system representing the wider problem or task which it is being used to solve or perform, they still may miss valuable leads to marketing action.

Consider the housewife. She uses many different systems as she goes about her household tasks—cleaning house, preparing food, laundering clothes, caring for the baby, getting ready to go out, and the like. Here the housewife, like other consumers, functions much as do other economic entities. She buys, transports, and changes raw materials into finished products in a sequence of events that is more or less efficient, more or less satisfying. Thus, a manufacturer who wants the housewife's "business" has to produce and sell a product which will, in meaningful ways, "plug into" the systems relevant to her. He has to have a practical understanding of what she is doing —the various products she uses, the different actions she takes—the total system in question.

EXAMPLE. Here is a general description of the steps involved in laundering clothes. In studying this system, the reader should keep in mind that only a bare skeleton is being presented; for the system to be truly meaningful much more would have to be known about housewives' feelings, thoughts, and attitudes about what they are doing. (Some speculative marketing implications are added in parentheses simply to illustrate the kinds of possibilities.)

The week's accumulation of laundry is sorted into piles. The housewife classifies the clothes to be processed, either by observation or by some predetermined set of "rules". Thus:

Men's white shirts may be handled routinely, but an unusually soiled pair of trousers may require a decision to be made. The housewife may use such standards as appearance, soiling, wrinkling, odor, length of wearing, and type of cloth as bases for her decisions.

Perhaps the men's shirts will be delivered to a Chinese laundry some distance away. (Here a special service is being used. Why is this service so unique? On the other hand, how much of a nuisance is it? Might the Chinese laundry begin pickup and delivery? Couldn't the large commercial laundries duplicate this type of laundering?)

The sorting continues. (How distasteful is sorting to the housewife? Perhaps a powder to reduce odor and mildew in the laundry hamper would be useful. Or perhaps a method of precleaning clothes so that soaking is eliminated would be welcome. Could some kind of sorting rack attachment to an appliance facilitate the process?)

White goods form one pile—sheets, pillowcases, towels, underwear, and so on. This requires hot water and bleach. Especially dirty spots may need individual attention with a brush. (Perhaps a tube of aerosol spray of a special cleaning substance could take care of these.)

Another pile includes the colorful items—blouses, linen napkins, girls' frocks. These may or may not need hot water. They may possibly need a bit of mending. (May be a little laundry sewing kit would be handy for this.)

Still another pile needs very special handling. Perhaps it includes socks,

delicate undergarments, synthetics, woolens, to be subdivided into those needing cold water, warm water, hand washing, and so on. (Possibly the sink that has been designed out of laundry rooms still has its place after all.)

Some things are to be dry cleaned—sent out or taken to a coin-operated machine. (When will home dry cleaning machines be available? And will there be a market for them?)

Doing the laundry. The products that will be used must be at hand—often a messy array of boxes, bottles (glass and plastic), spray cans, and jars. Like an alchemist the woman will juggle an assortment that may include more than one brand of detergent, bluing, starch, bleach, water softener, fabric softener, spot remover, soap, and hand lotion! (Conceivably, there is room for an integrated line of laundry products with compatible ingredients and matched containers to help organize the array of cleaning staples.) Let's see how the system continues and note what other questions arise:

Piles of clothes are put into the washing machine. Since the piles are of different volume and weight, there are problems in loading. Overloading is not uncommon; underloading is a wasteful irritation. (This problem has been solved by new models that adapt to smaller loads, but are there other refinements still possible?)

There are different kinds of washing machines. The consumer has to judge which is best for her and then live with it. "I'd like one that does everything automatic, but my service man says those give more trouble, and that I'm better off with my simpler machine," is a statement commonly heard among housewives. (Clearly, reliability is still an area with marketing potential.)

Nearby is the box of detergent. The giant box is a real chore to handle and to lug from the supermarket. (Volume delivery would seem a good solution; and perhaps home delivery of barrel-size containers would offer possibilities. Also, since laundries are such wet places, why don't they do something about the boxes that collapse? Plastic containers or plastic-bottom boxes would alleviate this problem.)

Frequently the detergent is added to the wash by pouring from the box "about one cup". There is a general problem of imprecision; women are likely to overdo. (Perhaps the directions should be more explicit, or there should be warning lights or bells; and perhaps the detergent manufacturer could include measuring cups or one-cup automatic dispenser chutes.)

What to do about bleach is a question that needs to be resolved. It is strong and threatening, but routinely useful; powder is safer, but possibly less effective. Bleach may be hard on clothes. It is disheartening to have clothes get frayed and threadbare. On the other hand, they *will* wear out and it is exciting to contemplate the possibility of a new garment. (The

rapidity with which new types of bleaches enter the market indicates that there remains an unsatisfied need here.)

Washing chores vary with the kind of machines women have—whether a washer-dryer, or separate appliances. As the process goes on, the clothes are spread around in different states of handling—dirty, wet, dry, ironed, waiting ironing from last time, poorly done pieces that need re-doing, things that need touching up. (Laundries and utility rooms are not always well planned, even in new homes. There is still a market for intelligent architectural attention to working space and its organization. On the other hand, may there not also be a certain amount of pleasure in being ankle deep in clothes that are gradually working their way to cleanliness?)

Dealing with lint is a problem. Lint removers (Scotch tape, sticky drums, and the like) for dry clothes, and lint removers in appliances are helpful, but still a bother. Washer and dryer lint traps are commonly neglected and may lead to mechanical problems. Many housewives end up washing dark things by hand to avoid lint. (Surely improvements are possible here.)

The housewife continues with the laundry task, perhaps also attending to children, preparation of meals, alert to clicks, buzzers, bells, agitator rhythm, and so on. Strangely enough, doing the home laundry is more complicated and more time-consuming than it used to be, owing to the proliferation of fabrics, machines, and washing ingredients. All the way through the system, many products are being used—softened water, implements, appliances, cleansers, aids—some casually, some with irritation, some with pleasure. Too much detergent may produce too many suds; too much softener makes the clothes feel too smooth (even "slimy"); too much bleach is hazard; the iron may scorch; a pipe leaks; buttons pop off; the dryer burns too hot —but the result may be, to the housewife, a fragrant, warm, fluffy pile of gratified accomplishment.

This analysis of the home laundry system is meant only to be suggestive; a properly done, more intensive, detailed analysis would be voluminous. But, hopefully, even this overly general analysis does indicate how knowledge of the total system, more fully and carefully dissected, can alert the manufacturer to certain facts:

The housewife is acting in an orderly or purposeful way, in the terms in which she defines her problems and tasks.

There are a series of interrelated steps which require consumer decision making based on knowledge, expectations, and standards (as well as on ignorance, surprise, and uncertainty).

Any laundry product is used with other products with which it must be compatible.

Questions arise from this type of analysis that point the way to new products or to a clearer understanding of consumer motivations by which old products can be marketed more effectively.

EXHIBIT 1 illustrates this total home laundering system. The various circles also indicate how it is made up of several (to some extent overlapping) subsystems.

Interrelated Subsystems

Many companies have gone quite far in another direction: identifying consumer groups, usually called market segments, that have different characteristics which (a) make them particularly good prospects for different varieties of product or service, and (b) make special product designs or marketing efforts directed at them enough more effective to more than repay the added cost of the specialization. But note how much more effective such segmentation can be if, again, it is tied not only into consumer characteristics (like income, geographic location, or education) but also into the different consumer goals that distinguish various consumption systems *and subsystems.*

Not only is every product (or service) part of some total consumption system, but also there are usually several distinct and definable subsystems in operation, because :

(1) Most problems can be solved with several different products, and most tasks can be performed in several different ways. Think of the various activity patterns which are in operation merely in the process of washing men's shirts—by hand or machine at home, commercial laundry, the laundromat, Chinese laundry, bachelor service, and so on.

(2) Different people have different goals in solving a problem or performing a task. Thus:

Our wristwatch manufacturer can focus on occupational use—railroad engineers, executives, secretaries, night watchmen, and so on (with a different subsystem for each, if he finds it worthwhile to go that far). Or he can focus on social use, in which case he may find problems and opportunities among people who are obsessive about being on time (which suggests automatic timing devices) versus people who use time maturely as a way of relating to other people in a socially synchronized way (and just how they do it may give him clues to watches for children, cocktail wear, and jewelry adornment).

Similarly, a manufacturer of a fabric softner will develop one kind of orientation if his interest is in consumption systems which relate to fabric protection. Longevity, resistance to weather and insects, odor, and hygiene —these will be the basic functions he will focus on. But if his interest primarily relates to fabric beautification, then softness, wrinkle-resistance, color enhancement, and so on will be the functions of interest to him.

A company in the petroleum industry will follow quite different courses, depending on whether it sees itself as fitting into a system which provides

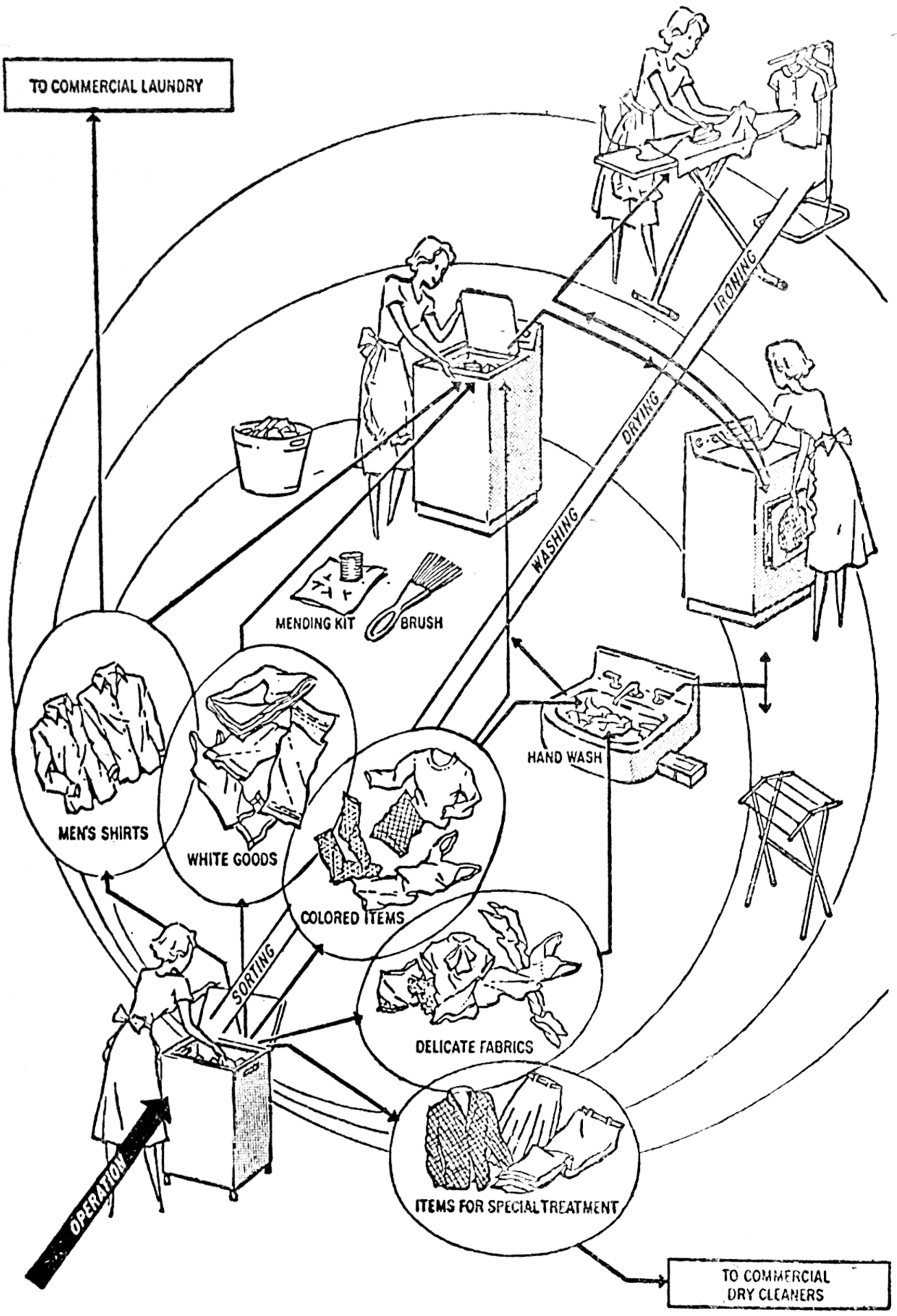


Exhibit I. Picture of a Home Laundry System

power, automotive service, transportation facilitation, or, as some companies are tending, as part of a system involving a conveniently located channel of distribution for a variety of products.

(3) People have different goals for different parts of a total consumption system. For example, a home gardener may want to cut his grass as painlessly and quickly as possible, but he may enjoy lavishing great care on his rose bushes.

EXAMPLE. Now, see what happens when we combine all of these differences—people, products, and goals—into a network of subsystems. For this purpose let us develop our gardening example in detail.

Suppose there are three major types of gardeners: (*a*) owners of small properties, casual about gardening; (*b*) owners of small properties, careful about gardening; and (*c*) owners of large properties, casual about gardening. In real life, the lines would not be drawn so sharply, there would be much overlap, and there would be other types of gardeners; but let us assume that for practical purposes they comprise most of the market.

Further, let us take three kinds of gardening products—lawn mowers, sprinklers, and chemical sprays—and see how they fit into the three separate systems of the three major types of gardeners. Actually, the three consumer groups differ among themselves in the goals that they have for each of the products. Even more significantly, within each consumer group the gardeners have different goals for the three different products, springing from the different ways they use the products in their total gardening consumption systems. Thus, there is a constellation of goals in each case (in real life there would of course be as many more sets of goals as there would be different products or different uses involved).

Consider, first, the three different gardening systems for the three different types of gardeners (identified by the relative size of their property and their general attitude) as far as their lawns and roses are concerned:

The small, casual gardener drags out the lawn mower when the grass begins to look untidy (to his wife, most likely), gets the job over with as quickly and easily as he can. But he loves and enjoys his roses, in part because they do not seem to call for the same effort, in part because they are more rewarding. So on other, more numerous occasions, he tends his roses, pruning them a little, raking around them a little; and if the bugs are eating the leaves, he will eagerly buy some chemical preparation and spray them, with much concern that he has the right brand. On still other occasions, when the grass looks dry (to his wife) or the roses look thirsty (to him), he'll do some watering, letting the spray cover grass and bushes alike.

The small, careful gardener, however, will treat both his lawn and his roses with great care, on a planned schedule, with different amounts of care and different kinds of treatment for each. He is particular about having his

grass just the right height—not letting it get so high it looks shaggy or cutting it so low it burns—but also varying it according to the season and weather. He applies his insecticide and does his watering *before* it is needed, being sure the spray doesn't wash the chemical off the roses, never watering the lawn in the heat of the sun, and doing a lot of deep soaking around the roots of the rose bushes. Note that he needs a watering device which will not just take care of the lawn but will be right, in a quite different application, also for the roses; that he will buy different kinds of chemicals, whose properties he knows from reading a horticultural magazine; and that it is more important for his lawn mower to have adjustable blades than to be easy and simple to use.

As for the large, casual gardener, every Saturday morning (if he plays golf in the afternoon) or every Saturday afternoon (if he plays golf in the morning), he get out his power mower and begins to enjoy the spectacle of himself riding up and down on his flashy steed. From time to time he dismounts, for a quick drink or to get the watering started where he has just mowed, or both. Finally, he gives the roses a quick going over, not noticing the destructive work of the bugs unless it gets so bad that it mars the appearance of the total landscape —and then, if it does, he sends out impatiently, and with some annoyance, for something—anything—with which to spray them. He really enjoys the mowing, because it shows him off, but the roses are only a necessary background, and the watering is a nuisance.

Next, note that each of the *three* gardener types has a different set of goals for each of the *three* different products, depending on how he uses them; and even though all are gardeners, interested in lawns and roses, their use behavior for just this much of their total gardening add up to three times three, or nine, subsystems (see EXHIBIT II).

Now consider, more fully, some of the marketing implications of looking at gardening as a consumption system made up of consumption subsystems:

(1) Mention has already been made of the implications for product design in the case of one product—lawn sprinklers. In the same way—but with different results, because the subsystems of consumption are different for the other two products—the insecticide manufacturer and the lawn-mower manufacturer can design their products to fit the needs of the three major types of gardeners. There are also implications if any one of these manufacturers is thinking of diversifying into other products. If an insecticide manufacturer with a strong following in the small, casual group wants to capitalize on this fact in the mower market, then he must have an economy-model mower to go with his high-quality spray.

(2) In the matter of distribution channels, the same insecticide manufacturer faces a dilemma. His lawn mowers may sell through hardware stores and discount houses, but the same people who buy mowers there will go to a garden center for their ,rose bush sprays (for the sake of professional advice). His alternative, then, might be to expand his line of sprays and

Exhibit II. Analysis of three different products in context of total gardening consumption system (much abbreviated) with nine subsystems (three different types of gardeners, or market segments, with three subsystems each)

Three major types of gardeners	*Lawn mowers (for grass)*	*Watering devices (for grass and rose bushes)*	*Insecticides (for rose bushes)*	*Marketing application*
A "SMALL, CASUAL" Owner of small property	Wants a product that is simple, rugged, easy to use	Wants anything that promises coverage of lawn	Wants one good formulation, easy to apply	Product design
Attitude toward gardening : casual, pleasurable	Will buy anywhere he can inspect it and buy it cheaply	Will buy anywhere it can be sold cheaply and inspected	Will buy where he can get advice	Channel of distribution
Gardening work habits : little-by-little, intermittently Schedule : random, impulsive	Goal : to get the job done quickly and conveniently	Goal : to cover the lawn with minimum of moving (no special thought about roses)	Goal : to rescue attacked plants and bring them back to health	Advertising
Interests : grass for cover and durability, roses for fun	Wants a bargain	Wants a bargain	Will pay a high price, if product promises to be successful	Pricing
B "SMALL, CAREFUL" Owner of small property	Wants adjustable blades, special attachments	Wants a small device, with fine, slow, manipulatable spray, and special attachment for soaking	Wants a complex formulation, several varieties, which can be applied precisely	Product design
Attitude toward gardening : careful, precise	Will buy where quality is assured	Will buy where quality is assured	Will buy where quality is assured	Channel of distribution
Gardening work habits : constantly, all leisure time				

Schedule : planned timing for lawn and roses with proper proportions of care for each	Goal : to secure precise, tailored lawn	Goal : to give different objects the kind of watering they individually require	Goal : to protect plants so they will never be attacked by disease	Advertising
Interests : obsessive desire for perfection of both lawn and roses	Will pay a high price if product has proper features	Will pay a high price if product has proper features	Will pay a high price but it must promise economy for effect secured	Pricing
C **"LARGE, CASUAL"** Owner of medium-size to large property	Wants something big and pretentious (with fancy gadgets)	Wants anything that promises wide coverage of lawn	Wants any formulation, easy to apply	Product design
Attitude toward gardening : casual, expansive, and sporty	Will buy where appropriate for "estate" owners to go	Will buy anywhere convenient	Will buy anywhere convenient	Channel of distribution
Gardening work habits : makes a big production of everything	Goal : to cover a lot of lawn quickly and show off while doing it	Goal : to cover the maximum amount of lawn with a lot of water (no special thought about roses)	Goal : to restore attacked plants to decent appearance	Advertising
Schedule : does chores in regular sequence Interests : great sweeps of lawn, great clumps of roses	Will pay a high price if product has proper features	Will pay a high initial price, but the product must be economical when expanded into a system	Wants a bargain	Pricing

attract the small, careful group B, thus capitalizing on his position in that type of outlet. On the other hand, the manufacturer of lawn mowers bought principally by the small, casual group could easily diversify into sprinklers, since they would be bought by the same people at the same kind of outlet.

(3) As for advertising, there would be the same crisscross (in some cases, re-enforcing; in other cases, conflicting) of quality and complexity versus economy and convenience. Involved would be not only the kinds of appeals to be used, but also the media to convey them, the amount of money to be spent, and even the timing. Manufacturers of lawn-mowers and sprinklers for groups A and C would spend less on national advertising, more on cooperative advertising (with dealers) or promotion of sales in local newspapers. Manufacturers of insecticides would stress chemical quality, early in or ahead of the season, in horticultural journals, in order to reach Group B; and do dealer promotion with garden centers during the season, for group A. And so on.

(4) In pricing, too, the problems and opportunities for the nine subsystems shown in EXHIBIT II would differ because of the different uses (and attendant goals) of the three market segments for the three products. The insecticide manufacturer can charge a high price for his product sold through garden centers to groups A and B, but he had better have a cheap product (under another brand name, perhaps) for sale through hardware stores to group C. And the lawn-mower manufacturer who observes many group A gardeners paying a high price for insecticides dare not conclude that these same gardeners will also pay a high price for his mowers.

The important point is that many of these insights would not result from generalizations either about market segments or product use, generalizations which would hide the sharp differences that become apparent from looking at the total consumption system and the nine subsystems corresponding to the three different products and the three different types of gardeners.

If one thinks of the consumer as operating a manufacturing process by which some end product emerges, it is easy to see that a variety of systems and subsystems would be in operation at any one time and that they would have some degree of relationship. While we have no desire to complicate the system concept further by introducing the notion of still wider systems, it is important for any seller to go far enough in his thinking to relate one consumption system to any wider systems which exist and which have an important effect on the operation of the system in which he has an immediate interest. For example, a marketer would be ill-advised to define a consumption system for a gardening product without recognizing that this system is related to and dependent on a wider system of acts and ideas pertaining to the whole changing pattern of leisure time in this country.

INDUSTRIAL PRODUCTS

Systems for industrial products are in some ways easier to specify if only

because they are more precise and logical in their operation. It can be well argued that anyone producing an industrial good should develop a system which starts with the consumer and moves all the way back to the production of the goods that, in turn, produce the goods (and so on) which are consumed by the consumer. The producer of industrial goods or supplies can typically be more successful if he helps his potential customers "create a customer". To do this requires that he understands the (relative) totality of the system even if, at best, he learns this primarily from research done by customers.

At the very minimum, a seller of an industrial product should concern himself with "where" his product fits into the manufacturing process of his potential customers. It must be compatible with prior parts of the process as well as with subsequent steps. Any change in any part of the process is likely to have an effect on all other parts—a fact that the manufacturer selling into the system must keep in mind. He can better protect against obsolescence, as well as do a better job of selling, if he knows his constraints; that is, if he understands the needs of the system.

Take, for example, the manufacturer of plastic materials designed to be used in the packaging of food:

This manufacturer would—or should—be concerned with a protection system which would solve such problems as spoilage, prevention of color fading, shrinkage, product visibility, and ease of storage and shipment. To market his product effectively, he would have to know and understand the various production systems currently in use by manufacturers of different food products: for example, fresh fruit and vegetables, smoked meats, poultry, fish and seafoods, and cheese. In addition, he would have to know the distribution systems in use, including physical handling, shipment, storage, shelf life, exposure to store traffic, markups, and amount of handling. Further, he would be interested in the consumer system that the product is a part of including place of storage, product life span in terms of replacement rate, and need for resealing.

As an actual case in point, the Cryovac Division of W. R. Grace and Company developed a vacuum-sealing process which in actuality was a major component of the total production, distribution, and consumer systems for meat, poultry, cheese, and fish. Since the Cryovac process necessitated the use of manual or automatic machines, company salesmen had to perform such activities as helping train labor, helping in the promotion of Cryovac-wrapped products to the trade, and helping to show how to install a product line using the Cryovac process.

Agricultural machinery also illustrates the value of the system concept, although there is little to suggest that most such manufacturers have applied themselves diligently to learning about the various farm systems in effect. With the growth in the number of large farms, we find many analogies between farming and manufacturing. More and more machinery is being

required to displace high-cost labor. Yet it is doubtful if many manufacturers consider the farm as a systematic production unit, and have studied the nature of the job to be done (for instance, on a time and motion basis) to determine the most efficient "factory layout" and machinery required.

On the other hand, farm machines have been developed which represent integral systems unto themselves. Some of these machines might have been developed earlier if manufacturers had analyzed the total process. Take, for example, the harvesting of corn:

Until recently the corn combine piece of machinery was limited to harvesting shelled corn in either a moist or dry state. Corn cobs were left in the field. Such a machine, of course, represented a radical improvement over earlier machines, since it picked and shelled, whereas previously, different machines were required. Now corn can be picked, shelled, and mixed or combined in the form of whole shelled corn with broken cobs by a single machine. In fact, some machinery manufacturers sell in terms of "systems" which require the use of two or more pieces of machinery to do a total job. Thus, in corn harvesting, one can by the addition of a dryer, a wagon dump, a chuck (storage) wagon, and escalators (for moving corn into the bins) complete the entire process with one basic machine.

In the past few years, the agricultural industry has experienced substantial unrest caused by the innovative tactics of smaller firms versus the giants who have continued largely to sell machinery on a dollar-per-pound-of-iron basis. Much of this new machinery gives evidence that the inventors understand, at least pragmatically, the nature and functioning of the system approach. Thus, for example, a new ingenious mechanized potato harvester has been developed that permits a crew of 8 to do the work of 30 diggers.

MARKETING DECISIONS

The analysis of consumption systems should be helpful to the management of a firm in many ways. It can serve to identify more precisely the company's corporate objectives, construct a plan of action, organize to carry out the plan (including finance, R and D, and production as well as marketing), and set up a control-reappraisal system. Here, however, we will discuss the relation of consumption systems to marketing strategy and gather together a few of the more important implications to show how this focus on consumption systems helps to enrich and coordinate various planning and decision-making areas in marketing.

Product & Product Line

When the manufacturer knows and keeps current the details of the consumption systems pertinent to his products, then he is in a better position to assess opportunities (perhaps he can reset housewife standards with a new

or modified product) as well as threats (for example, the development of new washing machines which clean by vibration). We can also assume that a knowledge of the more important systems will help him to innovate, or at least provide him with a better understanding of the chances to innovate. The part his product plays in the total system, when made reasonably explicit, should enable him to gain a better understanding of his role in the consumer's life. Further, he has a point of reference from which to judge how the passage of time and the actions of his competitors may be changing the system. Consequently, he will be better able to spot new opportunities as they arise.

More often than not, innovations are actually little more than a rearrangement or collapsing of the parts of a given system. This rearrangement usually represents an easier, or less costly, or more attractive, or more efficient way of solving the basic need.[3] In most cases, the rearrangement of steps involves combining and shortening. Most consumer goods innovations have, in recent years, been of this type. Many new products have been created when several "specialized" products have been combined into one. Thus:

A classic example is in the home laundry field where detergents, bluing, and softeners have been combined.

Combination has been accomplished with a number of food products such as ready-to-eat cereals with sugar added, lemon-flavored sugar lumps for tea, frozen vegetables with butter sauce, cake mixes which include eggs, and, of course, pre-cooked meals.

In the world of machines for use in the home, the electric refrigerator with automatic defrosting, the gas or electric stove with its automatic timer, the radios and hi-fi sets which turn themselves off, the TV sets with their armchair controls, and the garage doors that open on signal, all are examples of admirable ingenuity that did not require tapping novel scientific principles.

The car has been the locale of many innovations, all involving a shortening of steps—automatic transmissions, longer greasing intervals, more miles to an oil change, push-button window washers, to note a few.

The innovations in cameras have centered recently around doing away with the light meter, the range finder, and even the developer as separate parts of the system.

If a manufacturer knows where his product fits into the steps in a system, he can better estimate the possibility of effecting innovation. This is accomplished by an examination of the steps prior to and subsequent to the point at which the product in question enters the system. He can frequently estimate the vulnerability of his current product by evaluating the other

[3] See Elting E. Morison, "A Case Study of Innovation," *Engineering and Science Monthly*, April 1950.

products which enter the system before and after his own product or are used in direct conjunction with it. Innovation by reaching back or by reaching forward in the system is, as has been stressed earlier, a common fact of life.

Research and development personnel need such a precise frame of reference within which to work. Knowledge of the steps in the individual consumption systems as well as the variety of alternative systems employed should provide them with the challenge, as well as the operational objectives, they so badly need. Assessing what they can do, both with current technology and with probable future technological changes, can help them provide the company with a higher return on R & D investments.

It is important, also, not to let one's thinking become too behavioristic. Just analyzing the mechanical steps in a system may not in itself generate useful ideas. In analyzing any consumption system, the engineer should think about the "problem" that users may feel at any given point. People are not always looking for efficiency, economy, and the like, as most impersonal analyses tend to assume. They may want distraction, aesthetics, individual expressiveness, pretentiousness, speed, and quiet.

Advertising Strategy

Advertising effectiveness obviously depends on the availability of a considerable amount of detailed information which will permit the determination of the role to be played by advertising, the advertising objectives, the proper choice of advertising copy, the coordination of advertising with other sales promotion activities, and the preparation of the advertising budget. Since consumers typically think in terms of product functions subjectively, and concern themselves with the ways in which products fit into their activities, it would seem that the systems approach would prove extremely helpful in advertising—if only because it presents a unified picture of the process by which a given task is accomplished, *including* the rationale, standards, and emotions involved. At the least such a wholeness would help the advertiser see his product in relation to the total operation, to see its relative importance to other products used in the system, to understand more fully what its real contribution is to the user, and to learn more about *why* it is used.

Knowing the point of entry of the product into the consumption pattern makes the appropriate appeals more apparent. It poses this question: What is the unique role the product plays in bridging the gap between prior and subsequent steps? Sometimes after analysis of the *true* action system, rather than the presumed, an advertiser may call for changes in his appeals that go counter to the overly generalized beliefs about consumer behavior that are accepted in his industry. Here are two examples:

(1) The decision to sell fresh chilled orange juice a "refreshing drink always available from your refrigerator" is a case in point. But an analysis of the

consumption system for fresh squeezed juice shows obstacles to this idea. Housewives typically serve juice in small glasses and have not prepared it in quantities to be stored. They regard it as precious. Also it is acid in content, they believe; too much is not healthy. And if it stands, its value declines. In the light of this analysis, what should the advertiser do to modify the situation?

(2) Aiming Gleem toothpaste at "people who can't brush after every meal" represents an interesting recognition and exploration of an actual system with which many people feel uncomfortable because it is not the sanctioned system. The TV situations showing why a busy life precludes brushing after every meal are ones with which the housewife can readily identify. Here the advertiser is adapting to reality.

Pricing Policy

As part of solving his price problems, the manufacturer explores the preferences and educability of his consumers. An analysis of the consumer systems employing his products will be extremely helpful. If, for example, a "new" product has little effect on the totality of the way consumption is currently organized in terms of time, general cost, and final satisfaction in the goal, there is little reason to believe that it will command a premium price. All too often the manufacturer exaggerates the importance of his new item, failing to realize that it is but a very small part of a ramified pattern.

Conversely, he may underestimate the importance of a small item which actually may have much to offer in a lengthy or relatively unpleasant system. Here is an interesting illustration:

A manufacturer of point-of-sale displays used at trade shows and conventions designed a prefabricated unit consisting of a number of panels that could be locked together with fiber plugs. The appearance of this prefab unit was equal to that of the highest priced wooden displays and could be set up by two men in less than one hour.

Rather than take essentially a cost approach to the problem of what initial price to charge for such a new unit, this manufacturer would have been well advised to study the consumption system for all such units and determine what effect the prefab unit would have on the total system. The costs and time involved in the selling process, the shipping costs (from one show to another), the deterioration owing to improper handling during shipment, the assembly time at the convention site, the dismantling time, the frequency and extent of refurbishing—all these and other components of the use system involved (attitudes and feelings of workers at these various steps) should have been analyzed before an attempt was made to arrive at a "best" market price.

Pricing may also be related to the expected life span of a product. Instead of waiting to see how long an object lasts in wear, manufacturers should

maintain an up-to-date, ongoing knowledge of how well and how long the product keeps functioning in the system. A far more realistic pricing strategy will be the result.

Personal Selling

The salesman's role or mission is changing in many firms—especially those selling technical products to industry. More and more, he is looked upon as a communication link between the seller and the marketplace. Increasingly, he is the "feedback" agent as to what the market wants and needs, as well as being the vertical thrust agent who sells the product. It is obvious that to execute these roles with efficiency requires an understanding on his part of the systematic process facilitated by his product. For example:

A salesman selling building materials must be able to demonstrate to architects, contractors, and engineers that his product is not only compatible with other products in the system, but that it is not at odds with the human factors which may be involved, for instance, existing skills of labor.

House-to-house and route salesmen should be aware of the characteristic ongoing patterns of living they are attempting to break into. A route man is asking an established system to alter and make a position for him in the stream of events. Thus:

A study for the Jewel Tea Company by Social Research, Inc. found that a large number of "customers wanted a route man who was friendly, congenial but 'not too nice', submissive, and conforming to requests and routines. He should be sensitive to the amount of socializing desired by the customer, allow her to set the pace, and then follow it quickly and willingly. He should follow a regular schedule of visits."[4]

CONCLUSION

An analysis of consumption systems should provide manufacturers with data which are useful in many marketing decision areas. Such analyses give a perspective of the process by which consumers satisfy their basic wants and needs; they make available a framework within which the company can exercise its imagination in product innovation, in advertising strategy development, in pricing policy, and in sales activities.

But systems can only be understood if they are seen as a series of interlocking steps. This coherent, connected view avoids the distortion resulting from studying bits and pieces of market information which are the usual fare of the marketer. In particular, the systems approach should facilitate

[4] See Joseph W. Newman, *Motivation Research and Marketing Management* (Boston, Division of Research, Harvard Business School, 1957), p. 355.

innovation, since most "new" products are new only in the sense that they are a combination of products used in two or more steps in a system.

Today's rapidly increasing expenditures for R & D require that the efforts of creative personnel be directed towards obtainable and meaningful innovations. These can best be achieved through an understanding of consumer systems relevant to their companies' products. Such an approach should be welcomed by technical personnel once they are trained to think along such lines.

9 / *Management Myopia*

THEODORE LEVITT

The author argues in favor of custom-oriented management and demonstrates its importance by citing a number of successful and unsuccessful case histories. He points out that declining industries were once growth industries and that it was management's failure rather than market saturation which was responsible for the declines. To be a success over time requires companies to think of themselves not as firms producing goods and services but as those which buy customers.

SHADOW OF OBSOLESCENCE.

It is impossible to mention a single major industry that did not at one time qualify for the magic appellation of "growth industry". In each case its assumed strength lay in the apparently unchallenged superiority of its product. There appeared to be no effective substitute for it. It was itself a runaway substitute for the product it so triumphantly replaced. Yet one after another of these celebrated industries has come under a shadow. Let us look briefly at a few of them, this time taking examples that have so far received a little less attention:

Dry Cleaning. This was once a growth industry with lavish prospects. In an age of wool garments, imagine finally being able to get them safely and easily cleaned. This boom was on.

Yet here we are thirty years after the boom started, and the industry is in trouble. Where has the competition come from? From a better way of cleaning? No. It has come from synthetic fibers and chemical additives that have cut the need for dry cleaning. But this is only the beginning. Lurking in the wings and ready to make chemical dry cleaning totally obsolescent is that powerful magician, ultrasonics.

Electrical Utilities. This is another one of those supposedly "no-substitute" products which has been enthroned on a pedestal of invincible growth. When the incandescent lamp came along, kerosene lights were finished. Later the water wheel and the steam engine were cut to ribbons by the flexibility, reliability, simplicity, and just plain easy availability of electric motors. The prosperity of electrical utilities continues to wax extravagant as the home is

SOURCE : From *Innovation in Marketing : New Perspectives for Profit and Growth* (Copyright McGraw-Hill Book Company, Inc., New York, 1962), pp. 43-50, 54-71. Used by special permission.

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converted into a museum of electrical gadgetry. How can anybody miss by investing in utilities, with no competition, nothing but growth ahead?

But a second look is not quite so comforting. A score of nonutility companies are well advanced toward developing a powerful chemical fuel cell which could sit in some hidden closet of every home silently ticking off electric power. The electric lines that vulgarize so many neighborhoods will be eliminated—so will the endless demolition of streets and service interruptions during storms. Also on the horizon is solar energy, again pioneered by non-utility companies.

Who says that the utilities have no competition? They may be natural monopolies now, but tomorrow they may die natural deaths. To avoid this, they too will have to develop fuel cells, solar energy, and other power sources. To survive, they themselves will have to plot the obsolescence of what now produces their livelihood.

Grocery Stores. Many people find it hard to realize that there ever was a thriving establishment known as the "corner grocery stores". The supermarket has taken over with a powerful effectiveness. Yet the big food chains of the 1930s narrowly escaped being completely wiped out by the aggressive expansion of independent supermarkets. The first genuine supermarket was opened in 1930, in Jamaica, Long Island. By 1933 supermarkets were thriving in California, Ohio, Pennsylvania, and elsewhere. Yet the established chains pompously ignored them. When they chose to notice them, it was with such derisive descriptions as "cheapy", "horse and buggy", "cracker-barrel storekeeping", and "unethical opportunists".

An executive of one big chain announced at the time that he found it "hard to believe that people will drive for miles to shop for foods and sacrifice the personal service chains have perfected and to which Mrs. Consumer is accustomed".[1] As late as 1936, the National Wholesale Grocers convention and the New Jersey Retail Grocers Association said there was nothing to fear. They said that the supers' narrow appeal to the price buyer limited the size of their market. They had to draw from miles around. When imitators came, there would be wholesale liquidations as volume fell. The current high sales of the supers was said to be partly due to their novelty. Basically people wanted convenient neighborhood grocers. If the neighborhood stores "cooperate with their suppliers, pay attention to their costs, and improve their services", they would be able to weather the competition until it blew over.[2]

It never blew over. The chains discovered that survival required going into the supermarket business. This meant the wholesale destruction of their huge investments in corner-store sites and in established distribution and merchandising methods. The companies with "the courage of their convic-

[1] For more details see M. M. Zimmerman, *The Supermarket: A Revolution in Distribution*, McGraw-Hill Book Company, Inc., New York, 1955, p. 48.

[2] *Ibid.*, pp. 45-47.

tions" resolutely stuck to the corner-store philosophy. They kept their pride but lost their shirts.

SELF-DECEIVING CYCLE

But memories are short. For example, it is hard for people who today confidently hail the twin messiahs of electronics and chemicals to see how things could possibly go wrong with these galloping industries. They probably also cannot see how a reasonably sensible businessman could have been as myopic as the famous Boston millionaire who fifty years ago unintentionally sentenced his heirs to poverty by stipulating that his entire estate be forever invested exclusively in electric-streetcar securities. His posthumous declaration, "There will always be a big demand for efficient urban transportation", is no consolation to his heirs who sustain life by pumping gasoline at automobile filling stations.

Yet, in a casual survey I took among a group of intelligent business executives, nearly half agreed that it would be hard to hurt their heirs by tying their estates forever to the electronics industry. When I then confronted them with the Boston streetcar example, they chorused unanimously, "That's different" ! But is it ? Is not the basic situation identical?

In truth, I believe, there is no such thing as a growth industry. There are only companies organized and operated to create and capitalize on growth opportunities. Industries that assume themselves to be riding some automatic growth escalator invariably descend into stagnation. The history of every dead and dying "growth" industry shows a self-deceiving cycle of bountiful expansion and undetected decay. There are four conditions which usually guarantee this cycle:

1. The belief that growth is assured by an expanding and more affluent population
2. The belief that there is no competitive substitute for the industry's major product
3. Too much faith in mass production and in the advantages of rapidly declining unit costs as output rises
4. Preoccupation with a product that lends itself to carefully controlled scientific experimentation, improvement, and manufacturing cost reduction.

I should like now to begin examining each of these conditions in some detail. To build my case as boldly as possible, I shall illustrate the points with reference to three industries—petroleum, automotive, and electronics —particularly petroleum, because it spans more years and more vicissitudes. Not only do these three have excellent reputations with the general public and also enjoy the confidence of sophisticated investors, but their managements have become known for progressive thinking in areas like financial control, product research, and management training. If obsolescence can cripple even these industries, it can happen anywhere.

POPULATION MYTH

The belief that profits are assured by an expanding and more affluent population is dear to the heart of every industry. It takes the edge off the apprehensions everybody understandably feels about the future. If consumers are multiplying and also buying more of your product or service, you can face the future with considerably more comfort than if the market were shrinking. An expanding market keeps the manufacturer from having to think very hard or imaginatively. If thinking is an intellectual response to a problem, then the absence of a problem leads to the absence of thinking. If your product has an automatically expanding market, then you will not give much thought to how to expand it.

One of the most interesting examples of this philosophy is provided by the petroleum industry. Probably our oldest "growth" industry, it has an enviable record. While there are some current apprehensions about its growth rate, the industry itself tends to be optimistic. But I believe it can be demonstrated that it is undergoing a fundamental yet typical change. It is not only ceasing to be a growth industry but may actually be a declining one, relative to other business. Although there is widespread unawareness of this fact, I believe that, unless it changes drastically, within twenty-five years the oil industry may find itself in much the same position of retrospective glory that the railroads are now in. Despite its pioneering work in developing and applying the present-value method of investment evaluation, in employee relations, and in working with backward countries, the petroleum business is at times a distressing example of how complacency and wrong-headedness can stubbornly convert opportunity into near disaster. Only in the last two years does it seem to have been aroused out of its heavy slumber.

One of the characteristics of this and other industries that have believed very strongly in the beneficial consequences of an expanding population, while at the same time being industries with a generic product for which there has appeared to be no competitive substitute, is that the individual companies have sought to outdo their competitors by improving on what they are already doing. This makes sense, of course, if one assumes that sales are tied to the country's population strings because the customer can compare products only on a feature-by-feature basis. Hence I believe it is very significant that not since John D. Rockefeller sent free kerosene lamps to China has the oil industry done anything really outstanding to create a demand for its product. Not even in product improvement has it showered itself with eminence. The greatest single improvement, namely, the development of tetraethyl lead, came from outside the industry, specifically from General Motors and Du Pont. The big contributions made by the industry itself are confined to the technology of oil exploration, production, and refining.

ASKING FOR TROUBLE

In other words, the industry's efforts have focused not nearly so much on improving the generic product or its marketing as on improving the efficiency of getting and making its product. Moreover, its chief product has, until quite recently, continuously been defined in the narrowest possible terms, namely, gasoline, and not energy, fuel, or transportation. This attitude has helped assure that:

1. Major improvements in gasoline quality in the past have tended not to originate in the oil industry itself. Also, the development of superior alternative fuels comes from outside the oil industry, as will be shown later.
2. Major innovations in automobile fuel marketing have been originated by small new oil companies that are not primarily preoccupied with production or refining. These are the companies that have been responsible for the rapidly expanding multipump gasoline stations, with their successful emphasis on large and clean layouts, rapid and efficient driveway service, and quality gasoline at low prices.

Thus the oil industry has asked for trouble from outsiders. Sooner or later, in this land of hungry inventors and entrepreneurs, a threat is sure to come. The possibilities of this will become more apparent when we turn to the next dangerous belief of many managements. For the sake of continuity, because this second belief is tied closely to the first, I shall continue with the same example.

IDEA OF INDISPENSABILITY

Until only two years ago the petroleum industry was pretty much persuaded that there was no competitive substitute for its major product, gasoline—or if there was, that it would continue to be a derivative of crude oil, such as diesel fuel or kerosene jet fuel.

There is a lot of automatic wishful thinking in this assumption. The trouble is that most refining companies own huge amounts of crude-oil reserves. These have value only if there is a market for products into which oil can be converted—hence the tenacious belief in the continuing competitive superiority of automobile fuels made from crude oil.

This idea persisted despite all historic evidence against it. The evidence not only shows that oil has never been a superior product for any purpose for very long but also that the oil industry has never really been a growth industry. It has been a succession of different businesses that have gone through the usual historic cycles of growth, maturity, and decay. Its overall survival is owed to a series of miraculous escapes from total obsolescence, of last-minute and unexpected reprieves from total disaster reminiscent of *The Perils of Pauline*....

PRODUCTION PRESSURES

Mass-production industries are impelled by a great drive to produce all they can. The prospect of steeply declining unit costs as output rises is more than most companies can usually resist. The profit possibilities look spectacular. All effort focuses on production. The result is that marketing gets neglected.

John Kenneth Galbraith contends that just the opposite occurs.[3] Output is so prodigious that all effort concentrates on trying to get rid of it. He says this accounts for signing commercials, desecration of the countryside with advertising signs, and other wasteful and vulgar practices. Galbraith has a finger on something real, but he misses the strategic point. Mass production does indeed generate great pressure to "move" the product. But what usually gets emphasized is selling, not marketing. Marketing, being a more sophisticated and complex process, gets ignored.

The difference between marketing and selling is more than semantic. Selling focuses on the needs of the seller, marketing on the needs of the buyer. Selling is preoccupied with the seller's need to convert his product into cash; marketing with the idea of satisfying the needs of the customer by means of the product and the whole cluster of things associated with creating, delivering, and finally consuming it.

In some industries the enticements of full mass production have been so powerful that for many years top management in effect has told the sales departments, "You get rid of it; we'll worry about profits". By contrast, a truly marketing-minded firm tries to create value-satisfying goods and services that consumers will want to buy. What it offers for sale includes not only the generic product or service but also how it is made available to the customer, in what form, when, under what conditions, and at what terms of trade. Most important, what it offers for sale is determined not by the seller but by the buyer. The seller takes his cues from the buyer in such a way that the product becomes a consequence of the marketing effort, not vice versa.

LAG IN DETROIT

The above may sound like an elementary rule of business, but that does not keep it from being violated wholesale. It is certainly more violated than honored. Take the automobile industry, for example.

Here mass production is most famous, most honored, and has the greatest impact on the entire society. The industry has hitched its star to the relentless requirements of the annual model change, a policy that makes customer orientation an especially urgent necessity. Consequently the auto-

[3] John Kenneth Galbraith, *The Affluent Society*, Houghton Mifflin Company, Boston, 1958, pp. 152-160.

companies spend millions of dollars a year on consumer research. But the fact that the new compact cars sold so well in the very first year of the "Big Three's" entry into this field indicates that Detroit's vast researches had for a long time failed to reveal what the customer really wanted. Detroit was not persuaded that he wanted anything different from what he had been getting until it lost millions of customers to other small-car manufacturers.

How could this unbelievable lag behind consumer wants have been perpetuated so long? Why did not research uncover consumer preferences before consumers' buying decisions themselves revealed the facts? Is that not what consumer research is for—to find out before the fact what is going to happen? The answer is that Detroit never properly researched the customer's wants. It only investigated his preferences among the kinds of things which it had already decided to offer him. For Detroit was mainly product-oriented, not customer-oriented. To the extent that the customer was recognized as having needs that the manufacturer should try to satisfy, Detroit usually acted as if the job could be done entirely by product changes. Occasionally financing got some attention too, but that was more in order to sell than to enable the customer to buy.

As for taking care of other customer needs, there is not enough being done to write about. The area of the greatest unsatisfied needs are ignored, or at best get stepchild attention. These areas are at the point of sale and on the matter of automotive repair and maintenance. Detroit considers these problem areas as being of secondary importance. This is underscored by the fact that the retailing and servicing ends of the industry are neither owned and operated nor controlled by the manufacturers. Once the car is produced, things are pretty much in the dealer's inadequate hands. Illustrative of Detroit's arm's-length attitude is the fact that, while servicing holds enormous sales-stimulating, profit-building opportunities, only fifty-seven of Chevrolet's 7,000 dealers provided night maintenance service in 1960.

Motorists repeatedly express their dissatisfaction with servicing and their apprehensions about buying cars under the present selling setup. The anxieties and problems they encounter during the auto-buying and auto-maintenance processes are probably more intense and widespread today than thirty years ago. Yet the automobile companies do not seem to listen to or take their cues from the anguished consumer. If they do listen, it must be through the filter of their own preoccupation with production. The marketing effort is still viewed as a necessary consequence of the product, not vice versa, as it should be. That is the legacy of mass production, with its parochial view that profit resides essentially in low-cost full production.

WHAT FORD PUT FIRST

The profit lure of mass production obviously has a place in the plans and

strategy of business management, but it must always *follow* hard thinking about the customer. This is one of the most important lessons that we can learn from the contradictory behavior of Henry Ford. In a sense Ford was both the most brilliant and the most senseless marketer in American history. He was senseless because he refused to give the customer anything but a black car. He was brilliant because he fashioned a production system designed to fit market needs. We habitually celebrate him for the wrong reason, his production genius. His real genius was marketing. We think he was able to cut his selling price and therefore sell millions of $500 cars because his invention of the assembly line had reduced the costs. Actually he invented the assembly line *because* he had concluded that at $500 he could sell millions of cars. Mass production was the result not the cause of his low prices.

Ford repeatedly emphasized this point, but a nation of production-oriented business managers refuses to hear the great lesson he taught. Here is his operating philosophy as he succinctly expressed it:

> Our policy is to reduce the price, extend the operations, and improve the article. You will notice that the reduction of price comes first. We have never considered any costs as fixed. Therefore we first reduce the price to the point where we believe more sales will result. Then we go ahead and try to make the prices. We do not bother about the costs. The new price forces the costs down. The more usual way is to take the costs and then determine the price, and although that method may be scientific in the narrow sense, it is not scientific in the broad sense, because what earthly use is it to know the cost if it tells you that you cannot manufacture at a price at which the article can be sold? But more to the point is the fact that, although one may calculate what a cost is, and of course all of our costs are carefully calculated, no one knows what a cost ought to be. One of the ways of discovering... is to name a price so low as to force everybody in the place to the highest point of efficiency. The low price makes everybody dig for profits. We make more discoveries concerning manufacturing and selling under this forced method than by any method of leisurely investigation.[4]

PRODUCT PROVINCIALISM

The tantalizing profit possibilities of low unit production costs may create the most seriously self-deceiving attitude that could afflict a company, particularly a "growth" company where an apparently assured expansion of demand already tends to undermine a proper concern for the importance of marketing and the customer.

The usual result of this narrow preoccupation with so-called "concrete

[4] Henry Ford, *My Life and Work*, Doubleday and Company, Inc., New York, 1923, pp. 146-147.

matters" is that, instead of growing, the industry declines. It usually means that the product fails to adapt to the constantly changing patterns of consumer needs and tastes, to new and modified marketing institutions and practices, or to product developments in competing or complementary industries. The industry has its eyes so firmly on its own specific product that it does not see how it is being made obsolete.

The classical example of this is the buggy-whip industry. No amount of product improvement could stave off its death sentence. But had the industry defined itself as being in the transportation business rather than in the buggy-whip business, it might have survived. It would have done what survival always entails, that is, change. Even if it had only defined its business as providing a stimulant or catalyst to an energy source, it might have continued existence by becoming a manufacturer of, say, fanbelts or air cleaners.

What may someday be a still more classical example is, again, the oil industry. Having let others steal marvellous opportunities from it (e.g., natural gas, as already mentioned, missile fuels, and jet engine lubricants), one would expect it to have taken steps to prevent its happening again. But this is not the case. There have been extraordinary new developments in fuel systems specifically designed to power automobiles. Not only are these developments concentrated in firms outside the petroleum industry, but until their delinquency was pointed out to them a few years ago, most petroleum companies almost systematically ignored them, securely content in their wedded bliss to oil. It is the story of the kerosene lamp versus the incandescent lamp all over again. Most big oil companies are still trying to improve hydrocarbon fuels rather than to develop fuels best suited to the needs of their users, whether or not made in different ways and with different raw materials from oil.

Here are some of the things which nonpetroleum companies are working on:

Over a dozen firms now have advanced working models of energy systems which, when perfected, may very well replace the internal-combustion engine and eliminate the demand for gasoline. The superior merit of each of these systems is their elimination of frequent, time-consuming, and irritating refueling stops. Most of these systems are fuel cells designed to create electric energy directly from chemicals without combustion. Most of them use chemicals that are not derived from oil, generally hydrogen and oxygen. The fact that hydrogen-oxygen systems remain crude and now entail serious combustion hazards has tranquilized most oil companies into a comforting reassurance of their own immortality.

Several nonpetroleum companies have advanced models of electric storage batteries designed to power automobiles. One of these firms is an aircraft producer that is working jointly with several electrical utility companies.

The latter hope to use off-peak generating capacity to supply overnight plug-in battery regeneration. Another company, also using the battery approach, is a medium-size electronics firm with extensive small-battery experience that it developed in connection with its work on hearing aids. It is collaborating with an automobile manufacturer. Recent improvements arising from the need for high-powered miniature power storage plants in rockets have put us within reach of a relatively small battery capable of withstanding great overloads or surges of power. Germanium diode applications and batteries using sintered-plate and nickel-cadmium techniques promise to make a revolution in our energy sources.

Solar energy conversion systems are also getting increasing attention. One usually cautious Detroit auto executive not long ago ventured that solar-powered cars might be common by 1980.

As for most oil companies, they are more or less "watching developments", as one research director put it to me. Two years ago only a few were doing any research on fuel cells, and that was almost always confined to developing cells powered by hydrocarbon chemicals. None of them were enthusiastically researching fuel cells, batteries, or solar power plants. None of them were spending a fraction as much on research in these profoundly important areas as they are on the usual run-of-the-mill things like reducing combustion-chamber deposit in gasoline engines. One major integrated petroleum company not long ago took a tentative look at the fuel cell and concluded that although "the companies actively working on it indicate a belief in ultimate success . . . the timing and magnitude of its impact are too remote to warrant recognition in our forecasts".

One might, of course, ask: Why should the oil companies do anything different? Would not chemical fuel cells, batteries, or solar energy kill the present product lines? The answer is that they would indeed, and that is precisely the reason for the oil firms having to develop these power units before their competitors, so they will not be companies without an industry.

Management might be more likely to do what is needed for its own preservation if it thought of itself as being in the energy business, as a couple of companies have now announced themselves to be. But even that is not enough if they persist in imprisoning themselves in the narrow grip of their tight product orientation. They have to think of themselves as taking care of customer needs, not finding, refining, or even selling oil. Once they genuinely think of their business as taking care of people's transportation or energy needs, nothing can stop them from creating their own extravagantly profitable growth.

"CREATIVE DESTRUCTION"

Since words are cheap and deeds are dear, it may be appropriate to indicate what this kind of thinking involves and leads to. Let us start at

the beginning—the customer. It can be shown that motorists strongly dislike the bother, delay, and experience of buying gasoline. People actually do not buy gasoline. They cannot see it, taste it, feel it, appreciate it, or really test it. What they buy is the right to continue driving their cars. The gas station is like a tax collector to whom people are compelled to pay a periodic toll as the price of using their cars. This makes the gas station a basically unpopular institution. It can never be made popular or pleasant, only less unpopular, less unpleasant.

To reduce its unpopularity completely means eliminating it. Nobody likes a tax collector, not even a pleasantly cheerful one. Nobody likes to interrupt a trip to buy a phantom product, not even from a handsome Adonis or a seductive Venus. Hence companies that are working on exotic fuel substitutes which will eliminate the need for frequent refueling are heading directly into the outstretched arms of the irritated motorist. They are riding a wave of inevitability, not because they are creating something which is technologically superior or more sophisticated, but because they are satisfying a powerful customer need.

Once the petroleum companies recognize the customer-satisfying logic of what another power system can do, they will see that they have no more choice about working on an efficient, long-lasting fuel (or some way of delivering present fuels without bothering the motorist) than the big food chains had about going into the supermarket business, or the vacuum-tube companies had about making semiconductors. For their own good the oil firms will have to destroy their own highly profitable assets. No amount of wishful thinking can save them from the necessity of engaging in this form of "creative destruction".

I phrase the need as strongly as this because I think management must make quite an effort to break itself loose from conventional ways. It is all too easy in this day and age for a company or industry to let its sense of purpose become dominated by the economies of full production and to develop a dangerously lopsided product orientation. In short, if management lets itself drift, it invariably drifts in the direction of thinking of itself as producing goods and services, not customer satisfactions. While it probably will not descend to the depths of telling its salesmen, "You get rid of it; we'll worry about profits", it can, without knowing it, be practicing precisely that formula for withering decay. The historic fate of one growth industry after another has been its suicidal product provincialism.

DANGERS OF R & D

Another big danger to a firm's continued growth arises when top management is wholly transfixed by the profit possibilities of technical research and development. To illustrate I shall turn first to a new industry—

electronics—and then return once more to the oil companies. By comparing a fresh example with a familiar one, I hope to emphasize the prevalence and insidiousness of a hazardous way of thinking.

In the case of electronics, the greatest danger which faces the glamorous new companies in this field is not that they do not pay enough attention to research and development but that they pay too much attention to it. And the fact that the fastest-growing electronics firms owe their eminence to their heavy emphasis on technical research is completely beside the point. They have vaulted to affluence on a sudden crest of unusually strong general receptiveness to new technical ideas. Also, their success has been shaped in the virtually guaranteed market of military subsidies and by military orders that in many cases actually preceded the existence of facilities to make the products. Their expansion has, in other words, been almost totally devoid of marketing effort.

Thus they are growing up under conditions that come dangerously close to creating the illusion that a superior product will sell itself. Having created a successful company by making a superior product, it is not surprising that management continues to be oriented toward the product rather than the people who consume it. It develops the philosophy that continued growth is a matter of continued product innovation and improvement.

A number of other factors tend to strengthen and sustain this belief:

1. Because electronic products are highly complex and sophisticated, managements become top-heavy with engineers and scientists. This creates a selective bias in favor of research and production at the expense of marketing. The organization tends to view itself as making things rather than satisfying customer needs. Marketing gets treated as a residual activity, "something else" that must be done once the vital job of product creation and production is completed.

2. To this bias in favor of product research, development, and production is added the bias in favor of dealing with controllable variables. Engineers and scientists are at home in the world of concrete things like machines, test tubes, production lines, and even balance sheets. The abstractions toward which they feel kindly are those which are testable or manipulatable in the laboratory, or if not testable, then functional, such as Euclid's axioms. In short, the managements of the new glamour-growth companies tend to favor those business activities which lend themselves to careful study, experimentation, and control—the hard, practical realities of the lab, the shop, the books.

What get shortchanged are the realities of the *market.* Consumers are unpredictable, varied, fickle, stupid, shortsighted, stubborn, and generally bothersome. This is not what the engineer-managers say, but deep down in their consciousness it is what they believe. And this accounts for their

concentrating on what they know and what they can control, namely, product research, engineering, and production. The emphasis on production becomes particularly attractive when the product can be made at declining unit costs. There is no more inviting way of making money than by running the plant full blast.

Today the top-heavy science-engineering-production orientation of so many electronics companies works reasonably well because they are pushing into new frontiers in which the armed services have pioneered virtually assured markets. The companies are in the felicitous position of having to fill, not find, markets; of not having to discover what the customer needs and wants, but of having the customer voluntarily come forward with specific new-product demands. If a team of consultants had been assigned specifically to design a business situation calculated to prevent the emergence and development of a customer-oriented marketing viewpoint, it could not have produced anything better than the conditions just described.

STEPCHILD TREATMENT

The oil industry is a stunning example of how science, technology, and mass production can divert an entire group of companies from their main task. To the extent the consumer is studied at all, the focus is forever on getting information which is designed to help the oil companies improve what they are now doing. Most of them generally try to discover more convincing advertising themes, more effective sales promotion drives, what the market shares of the various companies are, what people like or dislike about service-station dealers and oil companies, and so forth. Few companies seem as interested in probing deeply into the basic human needs that the industry might be trying to satisfy as in probing into the basic properties of the raw material that the companies work with in trying to deliver customer satisfactions.

Basic questions about customers and markets seldom get asked. The latter occupy a stepchild status. They are recognized as existing, as having to be taken care of, but not worth very much real thought or dedicated attention. Nobody gets as excited about the customers in his own backyard as about the oil in the Sahara Desert. Nothing illustrates better the neglect of marketing than its treatment in the industry press.

The centennial issue of the *American Petroleum Institute Quarterly,* published in 1959 to celebrate the discovery of oil in Titusville, Pennsylvania, contained twenty-one feature articles proclaiming the industry's greatness. Only one of these talked about its achievements in marketing, and that was only a pictorial record of how service-station architecture has changed. The issue also contained a special section on "New Horizons", which was devoted to showing the magnificent role oil would play in America's future. Every reference was ebulliently optimistic, never once implying that oil might have

some hard competition. Even the reference to atomic energy was a cheerful catalogue of how oil would help make atomic energy a success. There was not a single apprehension that the oil industry's affluence might be threatened or a suggestion that one "New Horizon" might include new and better ways of serving oil's present customers.

But the most revealing example of the stepchild treatment that marketing gets was still another special series of short articles on "The Revolutionary Potential of Electronics". Under that heading the following article titles appeared in the table of contents: "In the Search for Oil," "In Production Operations", "In Refinery Processes", "In Pipeline Operations".

Significantly, every one of the industry's major functional areas is listed, except marketing. Why? Either it is believed that electronics holds no revolutionary potential for petroleum marketing (which is palpably wrong), or the editors forgot to discuss marketing (which is more likely and illustrates its stepchild status).

The order in which the four functional areas are listed also betrays the past alienation of the oil industry from the consumer. The industry is implicitly defined as beginning with the search for oil and ending with its distribution from the refinery. But the truth is that this industry, as all industries, begins with the needs of the customer for its product. From that primal position its definition moves steadily backstream to areas of progressively lesser importance, until it finally comes to rest at the "search for oil".

BEGINNING AND END

The view that an industry is a customer-satisfying process, not a goods-producing process, is vital for all businessmen to understand. An industry begins with the customer and his needs, not with a patent, a raw material, or a selling skill. Given the customer's needs, the industry develops backward, first concerning itself with the physical delivery of customer satisfactions. Then it moves back further to creating the things by which these satisfactions are in part achieved. How these materials are created is a matter of indifference to the customer; hence the particular form of manufacturing, processing, or what have you, cannot be considered as a vital aspect of the industry. Finally, the industry moves back still further to finding the raw materials necessary for making its products.

The irony of some industries oriented toward technical research and development is that the scientists who occupy the high executive positions are totally unscientific when it comes to defining their companies' overall needs and purposes. They violate the first two rules of the scientific method —being aware of and defining their companies' problems, and then developing testable hypotheses about solving them. They are scientific only about the convenient things, such as laboratory and product experiments. The

reason that the customer (and the satisfaction of his deepest needs) is not considered as being "the problem" is not because there is any certain belief that no such problem exists but because an organizational lifetime has conditioned management to look in the opposite direction. Marketing is a stepchild.

I do not mean that selling is ignored. Far from it. But selling, again, is not marketing. As already pointed out, selling concerns itself with the tricks and techniques of getting people to exchange their cash for your product. It is not concerned with the values that the exchange is all about. And it does not, as marketing invariably does, view the entire business process as consisting of a tightly integrated effort to discover, create, arouse, and satisfy customer needs. The customer is somebody "out there" who, with proper cunning, can be separated from his loose change.

Actually, not even selling gets much attention in some technologically minded firms. Because there is a virtually guaranteed market for the abundant flow of their new products, they do not in truth know what a real market is. It is as if they lived in a planned economy, moving their products routinely from factory to retail outlet. Their successful concentration on products tends to convince them of the soundness of what they have been doing, and they fail to see the gathering clouds over the market...

III/SEGMENTING THE MARKET

10 / Product Differentiation and Market Segmentation as Alternative Marketing Strategies

WENDELL R. SMITH

While contemporary economic theory deals with the nature of product differentiation and its effect upon the operation of the total economy, the alternative marketing strategies available to planners and merchandisers of products have received less attention.

This article compares and analyzes the alternative strategies of product differentiation and market segmentation. The origin of each strategy is traced to diversities in supply and in consumer demand. Several reasons for the emergence of the market segmentation strategy are discussed.

During the decade of the 1930's, the work of Robinson and Chamberlin resulted in a revitalization of economic theory. While classical and neoclassical theory provided a useful framework for economic analysis, the theories of perfect competition and pure monopoly had become inadequate as explanations of the contemporary business scene. The theory of perfect competition assumes homogeneity among the components of both the demand and supply sides of the market, but diversity or heterogeneity had come to be the rule rather than the exception. This analysis reviews major marketing strategy alternatives that are available to planners and merchandisers of products in an environment characterized by imperfect competition.

Diversity in Supply

That there is a lack of homogeneity of close similarity among the items offered to the market by individual manufacturers of various prodcuts is obvious in any variety store, department store, or shopping center. In many cases the impact of this diversity is amplified by advertising and promotional activities. Today's advertising and promotion tends to emphasize appeals to *selective* rather than *primary* buying motives and to point out the distinctive or differentiating features of the advertiser's product or service offer.

The presence of differences in the sales offers made by competing suppliers produces a diversity in supply that is inconsistent with the assumptions of earlier thory. The reasons for the presence of diversity in specific markets are many and include the following:

SOURCE : From *Journal of Marketing,* national quarterly publication of the American Marketing Association, vol. 21, July 1956, pp. 3-8. Wendell R. Smith Alderson and Sessions.

1. Variations in the production equipment and methods or processes used by different manufacturers of products designed for the same or similar uses.
2. Specialized or superior resources enjoyed by favorably situated manufacturers.
3. Unequal progress among competitors in design, development, and improvement of products.
4. The inability of manufacturers in some industries to eliminate product variations even through the application of quality control techniques.
5. Variations in producers' estimates of the nature of market demand with reference to such matters as price sensitivity, color, material, or package size.

Because of these and other factors, both planned and uncontrollable differences exist in the products of an industry. As a result, sellers make different appeals in support of their marketing efforts.

Diversity or Variations in Consumer Demand

Under present-day conditions of imperfect competition, marketing managers are generally responsible for selecting the over-all marketing strategy or combination of strategies best suited to a firm's requirements at any particular point in time. The strategy selected may consist of a program designed to bring about the *convergence* of individual market demands for a variety of products upon a single or limited offering to the market. This is often accomplished by the achievement of product differentiation through advertising and promotion. In this way, variations in the demands of individual consumers are minimized or brought into line by means of effective use of appealing product claims designed to make a satisfactory volume of demand *converge* upon the product or product line being promoted. This strategy was once believed to be essential as the marketing counterpart to standardization and mass production in manufacturing because of the rigidities imposed by production cost considerations.

In some cases, however, the marketer may determine that it is better to accept *divergent* demand as a market characteristic and to adjust product lines and marketing strategy accordingly. This implies ability to merchandise to a heterogeneous market by emphasizing the precision with which a firm's products can satisfy the requirements of one or more distinguishable market segments. The strategy of product differentiation here gives way to marketing programs based upon measurement and definition of market differences.

Lack of homogeneity on the demand side may be based upon different customs, desire for variety, or desire for exclusiveness or may arise from basic differences in user needs. Some divergence in demand is the result of shopping errors in the market. Not all consumers have the desire or the

ability to shop in a sufficiently efficient or rational manner as to bring about selection of the most needed or most wanted goods or services.

Diversity on the demand side of the market is nothing new to sales management. It has always been accepted as a fact to be dealt with in industrial markets where production to order rather than for the market is common. Here, however, the loss of precision in the satisfying of customer requirements that would be necessitated by attempts to bring about convergence of demand is often impractical and, in some cases, impossible. However, even in industrial marketing, the strategy of product differentiation should be considered in cases where products are applicable to several industries and may have horizontal markets of substantial size.

Long-Term Implications

While contemporary economic theory deals with the nature of product differentiation and its effects upon the operation of the total economy, the alternative strategies of product differentiation and market segmentation have received less attention. Empirical analysis of contemporary marketing activity supports the hypothesis that, while product differentiation and market segmentation are closely related (perhaps even inseparable) concepts, attempts to distinguish between these approaches may be productive of clarity in theory as well as greater precision in the planning of marketing operations. Not only do strategies of differentiation and segmentation call for differing systems of action at any point in time, but the dynamics of markets and marketing underscore the importance of varying degrees of diversity *through time* and suggest that the rational selection of marketing strategies is a requirement for the achievement of maximum functional effectiveness in the economy as a whole.

If a rational selection of strategies is to be made, an integrated approach to the minimizing of total costs must take precedence over separate approaches to minimization of production costs on the one hand and marketing costs on the other. Strategy determination must be regarded as an over-all management decision which will influence and require facilitating policies affecting both production and marketing activities.

Differences Between Strategies of Differentiation and Segmentation

Product differentiation and market segmentation are both consistent with the framework of imperfect competition.[1] In its simplest terms, *product differentiation* is concerned with the bending of demand to the will of supply. It is an attempt to shift or to change the slope of the demand curve for the marketing offering of an individual supplier. This strategy may also be employed by a group of suppliers such as a farm cooperative, the members of which have agreed to act together. It results from the desire

[1] Imperfect competition assumes lack of uniformity in the size and influence of the firms or individuals that comprise the demand or supply sides of a market.

to establish a kind of equilibrium in the market by bringing about adjustment of market demand to supply conditions favorable to the seller.

Segmentation is based upon developments on the demand side of the market and represents a rational and more precise adjustment of product and marketing effort to consumer or user requirements. In the language of the economist, segmentation is *disaggregative* in its effects and tends to bring about recognition of several demand schedules where only one was recognized before.

Attention has been drawn to this area of analysis by the increasing number of cases in which business problems have become soluble by doing something about marketing programs and product policies that overgeneralise both markets and marketing effort. These are situations where intensive promotion designed to differentiate the company's products was not accomplishing its objective—cases where failure to recognize the reality of market segments was resulting in loss of market position.

While successful product differentiation will result in giving the marketer a horizontal share of a broad and generalized market, equally successful application of the strategy of market segmentation tends to produce depth of market position in the segments that are effectively defined and penetrated. The differentiator seeks to secure a layer of the market cake, whereas one who employs market segmentation strives to secure one or more wedge-shaped pieces.

Many examples of market segmentation can be cited; the cigarette and automobile industries are well-known illustrations. Similar developments exist in greater or lesser degree in almost all product areas. Recent introduction of a refrigerator with no storage compartment for frozen foods was in response to the distinguishable preferences of the segment of the refrigerator market made up of home freezer owners whose frozen food storage needs had already been met.

Strategies of segmentation and differentiation may be employed simultaneously, but more commonly they are applied in sequence in response to changing market conditions. In one sense, segmentation is a momentary or short-term phenomenon in that effective use of this strategy may lead to more formal recognition of the reality of market segments through redefinition of the segments as individual markets. Redefinition may result in a swing back to differentiation.

The literature of both economics and marketing abounds in formal definitions of product differentiation. *From a strategy viewpoint,* product differentiation is securing a measure of control over the demand for a product by advertising or promoting differences between a product and the products of competing sellers. It is basically the result of sellers' desires to establish firm market positions and/or to insulate their businesses against price competition. Differentiation tends to be characterized by heavy use of advertising and promotion and to result in prices that are somewhat above the

equilibrium levels associated with perfectly competitive market conditions. It may be classified as a *promotional* strategy or approach to marketing.

Market segmentation, on the other hand, consists of viewing a heterogeneous market (one characterized by divergent demand) as a number of smaller homogeneous markets in response to differing product preferences among important market segments. It is attributable to the desires of consumers or users for more precise satisfaction of their varying wants. Like differentiation, segmentation often involves substantial use of advertising and promotion. This is to inform market segments of the availability of goods or services produced for or presented as meeting their needs with precision. Under these circumstances, prices tend to be somewhat closer to perfectly competitive equilibrium. Market segmentation is essentially a *merchandising* strategy, merchandising being used here in its technical sense as representing the adjustment of market offerings to consumer or user requirements.

The Emergence of the Segmentation Strategy

To a certain extent, market segmentation may be regarded as a force in the market that will not be denied. It may result from trial and error in the sense that generalized programs of product differentiation may turn out to be effective in some segments of the market and ineffective in others. Recognition of, and intelligent response to, such a situation necessarily involves a shift in emphasis. On the other hand, it may develop that products involved in marketing programs designed for particular market segments may achieve a broader acceptance than originally planned, thus revealing a basis for convergence of demand and a more generalized marketing approach. The challenge to planning arises from the importance of determining, preferably in advance, the level or degree of segmentation that can be exploited with profit.

There appear to be many reasons why formal recognition of market segmentation as a strategy is beginning to emerge. One of the most important of these is decrease in the size of the minimum efficient producing or manufacturing unit required in some product areas. American industry has also established the technical base for product diversity by gaining release from some of the rigidities imposed by earlier approaches to mass production. Hence, there is less need today for generalization of markets in response to the necessity for long production runs of identical items.

Present emphasis upon the minimizing of marketing costs through self-service and similar developments tends to impose a requirement for better adjustment of products to consumer demand. The retailing structure, in its efforts to achieve improved efficiency, is providing less and less sales push at point of sale. This increases the premium placed by retailers upon products that are presold by their producers and are readily recognized by consumers as meeting their requirements as measured by satisfactory rates of stock turnover.

It has been suggested that the present level of discretionary buying power is productive of sharper shopping comparisons, particularly for items that are above the need level. General prosperity also creates increased willingness "to pay a little more" to get "just what I wanted".

Attention to market segmentation has also been enhanced by the recent ascendancy of product competition to a position of great economic importance. An expanded array of goods and services is competing for the consumer's dollar. More specifically, advancing technology is creating competition between new and traditional materials with reference to metals, construction materials, textile products, and in many other areas. While such competition is confusing and difficult to analyze in its early stages, it tends to achieve a kind of balance as various competing materials find their markets of maximum potential as a result of recognition of differences in the requirements of market segments.

Many companies are reaching the stage in their development where attention to market segmentation may be regarded as a condition or cost of growth. Their *core* markets have already been developed on a generalized basis to the point where additional advertising and selling expenditures are yielding diminishing returns. Attention to smaller or *fringe* market segments, which may have small potentials individually but are of crucial importance in the aggregate, may be indicated.

Finally, some business firms are beginning to regard an increasing share of their total costs of operation as being fixed in character. The higher costs of maintaining market position in the channels of distribution illustrate this change. Total reliance upon a strategy of product differentiation under such circumstances is undesirable, since market share available as a result of such a promotion-oriented approach tends to be variable over time. Much may hinge, for example, upon week-to-week audience ratings of the television shows of competitors who seek to outdifferentiate each other. Exploitation of market segments, which provides for greater maximization of consumer or user satisfactions, tends to build a more secure market position and to lead to greater over-all stability. While traditionally, high fixed costs (regarded primarily from the production viewpoint) have created pressures for expanded sale of standardized items through differentiations the possible shifting of certain marketing costs into the fixed area of the total cost structure tends to minimize this pressure.

CONCLUSION

Success in planning marketing activities requires precise utilization of both product differentiation and market segmentation as components of marketing strategy. It is fortunate that available techniques of marketing research make unplanned market exploration largely unnecessary. It is the obligation of those responsible for sales and marketing administration to

keep the strategy mix in adjustment with market structure at any point in time and to produce in marketing strategy at least as much dynamism as is present in the market. The ability of business to plan in this way is dependent upon the maintenance of a flow of market information that can be provided by marketing research as well as the full utilisation of available techniques of cost accounting and cost analysis.

Cost information is critical because the upper limit to which market segmentation can be carried is largely defined by production cost considerations. There is a limit to which diversity in market offerings can be carried without driving production costs beyond practical limits. Similarly, the employment of product differentiation as a strategy tends to be restricted by the achievement of levels of marketing cost that are untenable. These cost factors tend to define the limits of the zone within which the employment of marketing strategies or a strategy mix dictated by the nature of the market is permissive.

It should be emphasized that while we have here been concerned with the differences between product differentiation and market segmentation as marketing strategies, they are closely related concepts in the setting of an imperfectly competitive market. The differences have been highlighted in the interest of enhancing clarity in theory and precision in practice. The emergence of market segmentation as a strategy once again provides evidence of the consumer's pre-eminence in the contemporary American economy and the richness of the rewards that can result from the application of science to marketing problems.

11 / Analyzing Foreign Opportunities

RAPHAEL W. HODGSON AND HUGO E. R. UYTERHOEVEN

Managers contemplating foreign ventures can determine the relative profitability of each through the use of a new analytical approach—operating margin analysis. This technique permits the market to select the firm and assures the establishment of a plan which is consistent with the objectives of the parent firm.

In this article

We will first describe why the magnitude and rapidity of economic change in industrialized areas enhance the danger of creating ill-conceived ventures, a danger compounded by the inadequacy of conventional methods of analysis. We will then proceed to describe a new approach, which we call opportunity analysis. Analysis of the operating margin and its major components, involuntary costs and discretionary expenses, will shed light on conditions in a particular industry abroad and on the competing participants. With this information management can reach useful conclusions regarding its operating flexibility and the looseness or tightness of competition, which is important because these factors affect the ease and profitability of entry.

If entry appears both feasible and desirable, it is necessary to design the future scope and strategy of a venture to assure survival and success. Here the principal criterion is the position that the company would have relative to the industry leaders. Often, as we shall see, the role of challenger will enable a foreign venture to select its own battleground, thus enhancing both its operating flexibility and chances for success. In any case, a foreign venture will have to anticipate future changes and contingencies, the magnitude and timing of which can be predicted.

Next we will discuss the critical industry conditions that must be taken into account. Five elements are especially important:

1. *Differences in financial charges can cause wide variations in profitability, even within the same industry.*
2. *Capacity-building requirements have to be watched carefully*
3. *The importance of specialization and concentration are particularly crucial elements.*
4. *Product policy requires a great deal of flexibility.*

SOURCE : From *Harvard Business Review*, vol. 40, March-April, 1962, pp. 60-79.
Raphael W. Hodgson: Management Services Division, Arthur D. Little, Inc. Hugo E. R. Uyterhaeven: Program Director, International Marketing Institute's Program in International Business for U.S. Managers.

5. *Distribution obstacles or opportunities have to be analyzed in detail and on a country-by-country basis.*

The importance of international comparisons of operating margins needs to be stressed. Operating margin analysis helps in avoiding the inherent dangers of making false analogies by transferring industry reasoning from one country to another. Most significantly, it also allows construction of an analytical grid comparing the various foreign opportunities with those at home.

By way of conclusion we shall focus on the need for consistency in planning in foreign ventures, both in terms of immediate and ultimate goals and of the parent company's capabilities and willingness.

One of the most significant business trends of our time is the entry of many United States manufacturing companies into foreign markets. How should the managements of these companies size up their opportunities abroad? The approach commonly followed is to analyze present market potentials and assess the prospects of future growth. On the face of it, this approach may seem rational—and certainly it provides *part* of the data top executives need. By itself, however, it is inadequate. As a basis for decision making it may even lead to more wrong answers than right ones. Here are just a few illustrations to make our point:

The European market for an important line of electronics systems was growing rapidly, and firms participating in this market were enjoying large profits. A U.S. company contemplating entry into this business possessed the skills and resources necessary to gain a competitive market position. At first glance, the company's prospects for doing well looked excellent according to conventional criteria.

Yet closer examination showed that high levels of demand relieved firms of the need to offer a considerable amount of customer service and special systems work normally required in more competitive situations. Given the absence of these sales expenses, profit margins were not as high as one would expect in this industry. Also, product shortages greatly reduced the levels of finished goods and work-in-process inventories, thus requiring less debt and equity capital. Profitability in this business could therefore be expected to decline rapidly as maturing conditions imposed increased sales expenses and capital requirements.

In the late 1950's in Europe, a capacity shortage prevailed in an important plastic. In addition, consumption appeared to be increasing at over 20% per year, and prices were very high relative to entry expenses and plant investments. Most firms felt that the problems of raw material supply and "coproduct" disposal, which are normal to a chemical business, were surmountable in that the huge demand and high prices for the plastic relieved

management of having to secure either the most economical source of raw materials or the most appropriate distribution for the coproducts. Consequently, the requirements for entry appeared less forbidding than in most other chemical product areas.

It was not surprising, therefore, that the field was entered by almost every candidate capable of doing so, and that capacity mushroomed all over Europe. Worse was to happen. The marginal cost of this product was low, yet capital investment was very high; with a considerable surplus for export already available in the United States, and with low European tariffs, dumping by U.S. producers occurred on a large scale. Today, the compounded effect of dumping by American producers and of large additions to capacity in Europe has collapsed prices to such an extent that a large number of the new business operations will probably become questionable ventures, if they have not already.

Profits were low among many European manufacturers of an important class of electric components, even though the market was a dynamic one. Most firms were under price pressure from two major producers. Investigation revealed that both producers had standardized their production around three basic types of products, thereby achieving higher scales of production resulting in much lower costs. This enabled them to enjoy considerable profits, while keeping prices low. Their low prices even enabled them to extend their market into areas where their products appeared overengineered or extravagant.

Competitors, although still holding the major market share, were making their profits largely on special items which were job-shop runs, while incurring losses on their standard offerings. There was clearly an opportunity for entry by developing a product policy similar to that of the industry leaders and sustaining the necessary production and distribution system. However, this opportunity would not have been suggested by a conventional market analysis.

In 1959 many firms entered the rapidly growing British refrigerator industry on a small scale. At that time, typical high profitability conditions prevailed in the refrigerator business along with a considerable amount of resale price maintenance. Plants of small scale were common, even among the leaders. Since then, however, imports, over-capacity arising from other new entrants, a break in consumer demand, and a break in price maintenance have brought prices down considerably. This trend eluded forecasters using the standard tools.

In short, management's investigation of foreign business opportunities should go beyond judgments of market growth if it is to recognize the opportunities before they become obvious to the world at large, and is to spot dangerous situations before investments are unwisely committed. Special reliance will have to be placed on a financial, economic, and operational analysis of competing companies as well as on the technical and

economic development of the field itself. We call this broader type of evaluation *opportunity analysis.*

PURPOSES AND USES

Opportunity analysis provides data and ways of looking at data that help top management with its most important decisions regarding foreign operations. More specifically, opportunity analysis helps executives to recognize:

1. *The limits within which a firm must operate abroad and plan its foreign strategy*—These quantitative limits are essential guideposts in defining the tightness or looseness of competition, which is the principal criterion of whether there is a margin (*a*) for the expense of getting a business started and of sustaining the running expenses, and (*b*) for profits.

To recognize and analyze these limits for any given industry is especially important in international operations for two reasons. First, the limits often differ markedly among countries. Failing to appreciate this, companies often look at Europe or another region "as a whole" and thereby draw false analogies. Secondly, these limits change over time. Management often ignores such changes, particularly when planning foreign ventures under currently prevailing high profitability conditions. In many European industries, tighter competitive conditions appear inevitable; in fact, this change has already occurred for some products and has caught several producers off guard. Opportunity analysis assists in determining *when* and *to what extent* the limits are likely to change.

2. *The means of competition in a foreign country*—Only by analyzing how local participants compete is it possible to determine how a foreign entrant can most successfully participate regardless of whether or not he produces locally or exports. Opportunity analysis ensures identification and evaluation of alternatives and avenues which may lead to success. Even within the same industry, competitive methods vary significantly among countries. Therefore, the recognition of their impact on capacity planning, pricing policy, distribution strategy, financial planning, and so on, is vital before clear entry and participation requirements for a foreign venture can be formulated.

3. *The critical elements of the industry*—We use the phrase "critical elements" to refer to important factors in operations that vary, not only from industry to industry, but also within the same industry from country to country. For example, variations in depreciation policies, working-capital requirements, utilization of debt, capacity building, operating control, inventory control, product policy, and distribution requirements may be significant.

Opportunity analysis is a valuable tool in appraising the foreign ventures of both established companies and newcomers. It helps the established firm reappraise its operations and judge the merits of expansion or diversification

opportunities, and it serves the firm seeking foreign entry for the first time, whether by way of a foreign distributor, licensee, manufacturing partner, suitable acquisition, or an entirely new operation. Opportunity analysis aids, not only in judging the value of the products or technology one has to offer (thus possibly increasing one's bargaining power in negotiation with potential foreign associates), but also in judging the competitive standing of potential associates and evaluating the capabilities of foreign competitors. It is, furthermore, of value to security analysts and underwriters in appraising foreign industry conditions as well as the relative strengths of competing participants.

Actually, opportunity analysis would be worth following here in the United States if businessmen were more dependent on formal analysis. At home, however, they can blend investigations, analysis, and judgment with an acute, fine, and, at times, intuitive sense—often the result of many years of experience. Abroad, the American businessman is without this guide; considerable and vigorous analysis, therefore, must take its place.

Coping With Change

Opportunity analysis is most vital in industrialized areas (*a*) if economic and competitive conditions are expected to change markedly, and (*b*) if these changes are likely to occur very quickly. Both the amount and the rapidity of economic change magnify the danger of missing opportunities and making unsound investments. This is the situation in European industry today for the following reasons:

Extraordinary growth rates (often as high as 30% per year) enable large-scale production in several consumer and industrial sectors, thus reducing manufacturing costs significantly. Firms lagging behind in market share may find themselves priced out of the market.

High growth rates severely tax a firm's financial ability. Yet if it fails to concentrate its resources on keeping up with the growth requirements of its industry, it may sacrifice its future profitability.

Financial burdens will be augmented by the merging of hitherto separate national markets. Until now, industries in each nation have usually been dominated by that nation's own companies, and the narrowness of national markets has frequently limited participation to very few firms. But in the years ahead economic unification will greatly widen the market size while simultaneously exposing predominantly national companies to competition from their foreign neighbors. The impact will be felt both in production and in marketing. For example:

The European chemical industry has hitherto constructed its productive capacity in relatively small steps (in contrast to the large capacity additions common in the U.S. chemical industry). A major reason for this difference is that in Europe, with participation in each country limited to a few firms,

the risk of forfeiture of opportunity by not engaging in a capacity race has not been too great. This risk, however, will become more acute after the merging of national markets. That it will increase financial burdens, create unused capacity, and aggravate price instability seems all too evident from the U.S. experience.

The task of dislodging national companies from their dominant marketing positions (which is particularly difficult because of structural distribution differences and varying national characteristics) may impose even more severe financial burdens on outsiders. We have already noted that under high growth rates it is a major achievement. This strain will be greatly compounded if a rapid exploration of continental opportunities requires a firm to multiply its position in as many markets as there are nations. In fact, the magnitude of such a task appears to exceed the financial and management resources of a great many European firms.

The need for large-scale plants, the search for low-cost production sites, and the difficulty of breaking into national distribution structures may lead to a considerable number of mergers and acquisitions, thus creating truly continental firms. As a result, companies which continue to limit their activities to their own national market may find themselves at a cost disadvantage. Their local distribution strengh will have to be immense to withstand price competition by foreign entrants. However, these high-cost producers may find themselves becoming desirable objects of acquisition by more efficient outside concerns seeking distribution outlets.

Because of differences in product concentration, market sizes, vertical integration, and so on, considerable variations in the cost of materials and parts prevail from country to country. Thus:

The French washing machine industry pays a higher price for its components than does the Italian washing machine industry, which in turn pays more than the German and British industries do.

British and French refrigerator manufacturers as a whole pay high prices for their compressors, largely because too many of them make their own compressors in small volumes instead of purchasing the very low-cost units made in Denmark and Italy.

The French cathode ray tubes are more expensive than elsewhere because of the lack of price competition among the two big domestic producers, both of whom have important captive television manufacturing outlets.

These differences, which have hitherto been buttressed by national tariffs, are bound to disappear with the progressive reduction of tariff barriers, for purchasers will be able to select the lowest cost suppliers more freely.

The application of technology has been accelerated by international interchange. Thus, a receiving country may go through a technological evolution in five years which took twenty or so years in the country which pioneered in the development. The compression of a long history of U.S. technological change into a short time period in Europe stimulates the

already rapid economic growth but also compounds it by creating considerable flux in the product lines of many companies and markets.

Ill-Conceived Ventures

The conditions of change just described allow sizable profits to many corporations today. However, at the same time they invite many new entrants. The additions to capacity may create surpluses of major proportions which, coupled with the coming adjustments required to survive in large unified markets, spell a tightening of competitive conditions. Indeed, the danger signals are already apparent in two of Europe's most dynamic industries—plastics and domestic appliances.

Many a participant will be incapable of withstanding the impact of the new competition. Unfortunately, this does not seem to be appreciated. Current profitable conditions hide crucial weaknesses; they invite complacency in that, because ventures are still so profitable, managements are not disposed to take steps to ensure their future. Conventional methods of analysis do not sufficiently focus on the danger signals or spot the real opportunities.

Errors in judgment are aggravated by the currently fashionable trend to establish operations in Europe. Often a businessman sees a market for his product and is impressed by its growth rate. However, he is pressed for time as he hears competition announcing new ventures; and since he feels he cannot afford to wait, he directs that an arrangement be made right away. Perhaps the contemplated operation is not the best one, but he hopes this can be adjusted afterwards; the important thing, it seems to him, is to be in the market on time. He typically assesses the profitability of his contemplated operation by making cost analogies with his existing American operation, allowing for European plant scales and labor rates. The difference between his cost forecast and prevailing price levels usually appears to justify the investment.

Our businessman will, to be sure, ask whether this difference can be maintained in years to come. He expects his future costs to decline with increasing scale of operations. As for future prices, a look at the industry price trend seems to provide him with as good a guess as any. By using this highly respectable approach, he concludes, in most cases, that his costs will decline faster than the industry price trend. The resultant ever-expanding profit margin (how common a phenomenon in company forecasts!) augurs very healthy black figures for the years ahead. Such unrealistic optimism is the cause of many ill-conceived foreign ventures.

At the other extreme, and equally dangerous for sound international business planning, some managements are inclined to exaggerate foreign difficulties and dangers, especially by ascribing inordinately severe price declines to the economic integration process. Opportunity analysis, by *identifying* and *quantifying* the crucial competitive conditions abroad, enables

the businessman to put a ceiling on unrealistic optimism and a floor under exaggerated pessimism.

OPERATING MARGINS

A vital tool in opportunity analysis is *operating margin analysis*. The "operating margin" in a business is defined for the purposes of the following discussion as the difference between the sales price and the cost of materials purchased. (For example, in January 1960 a French manufacturer paid the equivalent of $66 for materials that went into a refrigerator which he sold for the equivalent of $101. His operating margin thus amounted to $35.) It is the margin within which a firm will have to operate, i.e., manufacture, sell, pay for research, conduct all other corporate activities, and make a profit.

In planning foreign ventures, operating margin analysis enables management to reconcile its basic manufacturing, marketing, and growth plan within the price-materials cost limits imposed by foreign competitive environments. It ensures that a venture meet the basic conditions of viability, that the operation of a business be carried out, and that the prevailing prices be met.

We have found it convenient to express the operating margin as a percentage of the cost of materials purchased. Thus, the operating margin for the French refrigerator just mentioned would be (sale price—materials cost) $\div$ material cost $= \$35 \div \$66 = 53\%$.

Clearly, the operating margin concept is not new. It is often referred to as "value added". It should not be confused with a common accounting usage, according to which operating margin constitutes the difference between sales price and cost of goods sold. This accounting definition has its usefulness in financial statements but is only of limited value for planning management strategy.

Framework of Use

What is novel about our concept is the framework in which we suggest that it be used. Simple in principle, operating margin analysis is complex in its application and interpretation. But in practice we have found the resulting conclusions to be straightforward and revealing.

What makes the approach so useful is that it defines the condition of an *industry* and not just of an individual firm. The margin limits are almost identical for all competing participants in a given country because each sells his products competitively and buys his materials at approximately the same price. Variations in margin within the same product line do not hinder the approach, but invite investigation as to the reasons for the difference. Likewise, different degrees of integration among companies can be reduced to a common denominator by using one of the least-integrated firms as a base

and segregating the additional activities of the other participants as separate "businesses".

The operating margin concept is also helpful because it keeps management from placing excessive emphasis on the accounting statements of established firms. Accounting principles leave companies great flexibility, especially in allocating expenses, even in the United States, thus making "true" profit a rather elastic notion. The correct profit figure becomes even more elusive in foreign countries with their different accounting practices, tax laws, disclosure regulations, and so on.

In short, the operating margin as we conceive it is an essential and highly exact element in corporate planning. It is highly exact because its two base points always remain unobscured and untouched by either accounting convention or company practices. Both the selling price and the cost of materials purchased can be determined objectively. In most cases they are common knowledge. If not, they can be readily determined either through trade channels or with the help of an engineer familiar with the product requirements.

Treatment of Costs

The operating margin becomes particularly useful when its two totally different components, involuntary costs and discretionary expenses, are analyzed. EXHIBIT 1 indicates how the operating margin and its components can be obtained.

Involuntary expenses arise from the nature of the firm's business, its scale of manufacturing, the types of processes used, and the degree of product specialization or standardization that has been achieved. They consist mainly of minimum manufacturing costs; they cannot be eliminated unless a firm cuts production. Therefore, they have to be incurred by everyone in the industry. Their level can be recognized by an engineer who is experienced in the product line and manufacturing processes. He also can develop, through careful product appraisal, a schedule of costs for various volumes of production and various manufacturing methods. Thus, relative changes in involuntary costs resulting from volume increases can be predicted with reasonable accuracy.

While involuntary expenses normally constitute the difference between cost of goods sold and cost of materials purchased, there are exceptions. For example:

Tooling expenses, though usually included in the cost of goods sold, are really discretionary expenses.

Manufacturing costs which are not absolutely necessary but which may add desirable features to the product line are also discretionary expenses, even though included by accountants in the costs of goods sold.

Discretionary expenses allow a foreign venture to fulfill its marketing and

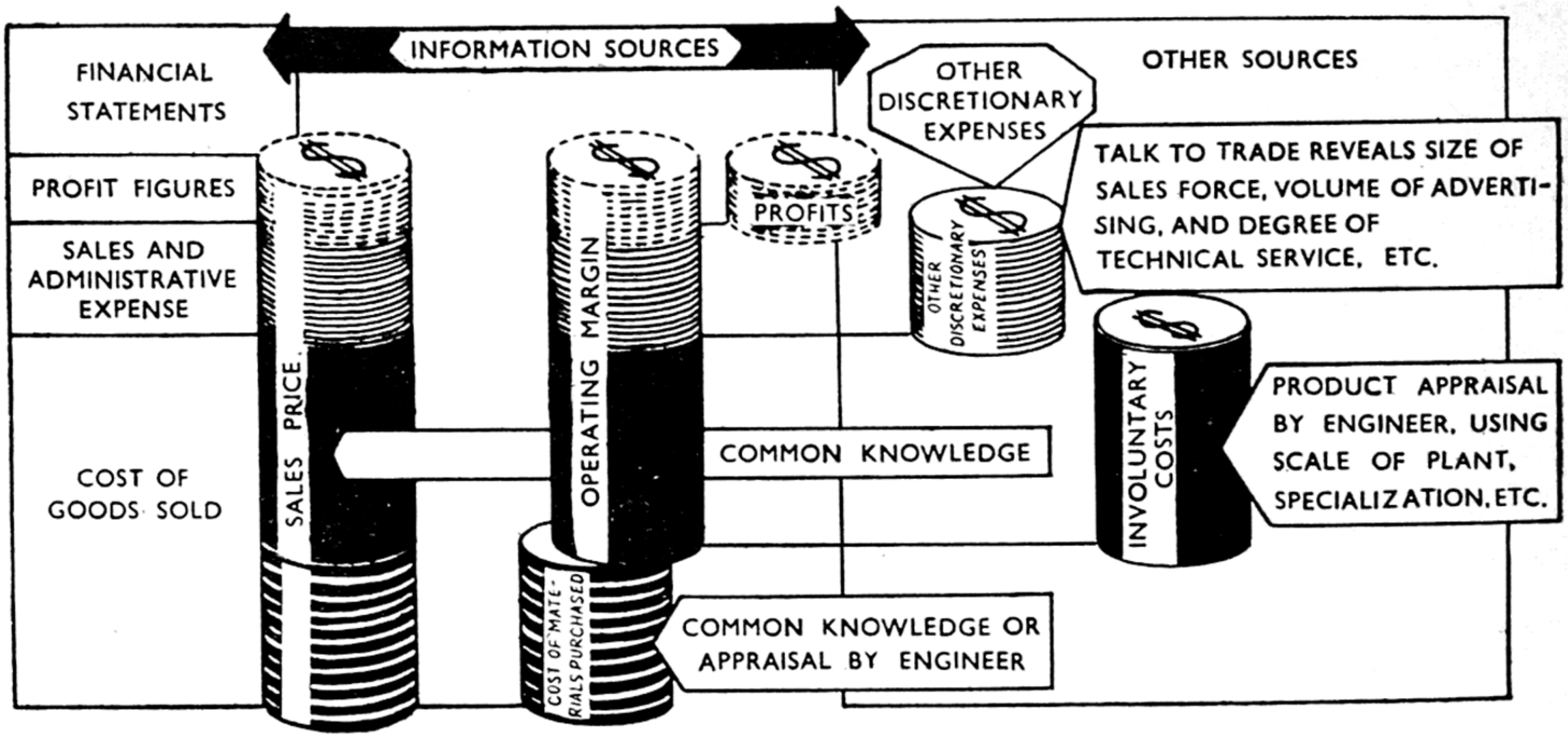
development objectives. Within the framework of competitive conditions, a firm has a certain latitude in determining which and how many discretionary expenses it wants to incur. Corporate strategies among firms vary chiefly because managements put their discretionary money to different uses. One firm may wish to make large profits for distribution to the stockholders or for retention to finance further expansion or diversification. Another firm may direct discretionary expenses toward product development, upgrading of quality, and tooling arising from frequent model changes, or it may incur discretionary expenses to strengthen its marketing position by establishing distribution outlets, creating brand loyalty, improving service to customers, and so forth. Still another firm may surrender discretionary money to reduce its prices.

Discretionary expenses are the lifeblood of a business. They often qualify as true economic investments and should be considered as such even though they are entered into accounting statements as expenses and not as assets. In terms of a company's long-term competitive strength, money invested in building up the distribution position or in creating product differentiation may be no less important than money invested in fixed plant and machinery. During periods of rapid growth, management often emphasizes increases in productive capacity while ignoring discretionary expenses of an investment nature. With the maturity of the industry, however, the emphasis usually shifts from the "capacity to make" to the "ability to sell," thus penalizing companies which in earlier years ignored discretionary expenses for marketing.

Because discretionary expenses of an investment nature in a firm's income statement (in contrast to fixed-asset investment) reduce current profits substantially, a careful analysis of these costs is needed if low profits (or even accounting losses) in growth industries are to be interpreted correctly.

Actually, profits are considered to be part of a firm's discretionary area in our analysis. This is because profit levels are so highly dependent on the types and amounts of other discretionary costs which management needs or wants to incur. In fact, retained profits to be used for further expansion are quite similar to discretionary expenses of an investment nature. On the other hand, rigid profit levels imposed by the need to maintain or increase dividends may reduce other discretionary uses of the money, possibly with perilous consequences.

EXHIBIT I. DETERMINING THE OPERATING MARGIN



NOTE: The method of determining an operating margin and its components combines financial analysis with a variety of other sources. By using several base points such as price lists, quotations of materials cost, information obtained by talking to men in the trade, and product appraisals by an experienced engineer, a surprisingly accurate picture can be obtained.

APPRAISING COMPETITION

Ordinarily, management wants to be sure that a new venture will generate adequate resources for growth and be able to sustain itself for a period of years. The enterprise must, therefore, be able to live within the prices imposed by competition and still generate a sufficiently wide operating margin to achieve growth. For this reason, in determining entry and participation requirements of a foreign venture it is vital to analyze its position relative to the industry leaders. By considering the involuntary costs and discretionary expenses of the leaders, management can predict future price trends. Turning then to the new venture, it can assess its relative capacity to compete and estimate its ability to pay for the necessary discretionary expenses of an investment nature that will be needed to achieve a viable position in the industry.

Analysis of involuntary and discretionary expenses thus enables a firm to plan for possible contingencies by estimating the extent to which industry leaders may be able to lower prices. These reductions will primarily hinge on (*a*) the lowering of their involuntary costs; and (*b*), as an industry moves to maturity, the extent to which achievement of product and marketing objectives allows the leaders to lower their discretionary expenses. Even though industry leaders will not in all cases exploit these advantages fully, it is necessary in planning a foreign venture to determine whether it will be able to survive under the most adverse eventuality.

Lowering Involuntary Costs

In a dynamic industry, characteristic of so many in Europe today, volume is the prime determinant of the operating margin. Larger scales of production reduce involuntary costs, enabling industry leaders to lower prices. Here is a case in point:

In France, the largest firms in the refrigerator industry make 150,000 units a year and operate within a margin of 50%, while in Germany the leading manufacturers have achieved a volume of 400,000 units per year and are able to operate more profitably within a margin of only about 35%. A manufacturer in Germany making only 150,000 refrigerators a year would clearly be the victim of a price-cost squeeze; indeed, precisely this condition led to the recent withdrawal of a major German electrical manufacturer and of one of the largest U.S. firms.

The extent as well as the timing of price reductions can be fairly accurately predicted by analyzing the leader's involuntary costs and by establishing a schedule of his costs for various increases in volume that can be anticipated with market growth. Price declines will often depend not only on increases in the scale of manufacture of a single product, but also on increased production volumes of similar products. In such cases an appraisal should encompass those products as well as the one of main concern.

When these assessments of future price declines, and hence of lower operating margins, are in hand, management is likely to have some interesting questions of strategy to consider. For one thing, a manufacturer contemplating entry into a business in a less mature stage of development must anticipate the conditions under which he could be the victim of a price-cost squeeze. This contingency will occur if prices drop faster than a company's ability to lower costs, which could happen if the industry leaders grow faster than anyone else. Should a price-cost squeeze develop, management may have to incur losses and match the price reductions in order to maintain its relative market share. Otherwise, it may not achieve sales levels which justify increasing its plant scale, to the point where this would ultimately bring the venture's costs in line with the costs of industry leaders.

If no such sacrifice is made, the decline in sales volume will result in even higher involuntary costs. These in turn will reduce the margin available for discretionary expenses and will push management into a vicious circle of still further concessions in the market. The venture will soon have to surrender its growth objectives. Next it will have to abandon its marketing objectives—and from that point on the downward cycle will be repeated, culminating in the loss of the business.

It is therefore essential to establish entry goals, such as market-share objectives, and to decide what production and sales efforts are necessary to achieve them. This will help to ensure that the venture will generate

adequate resources at least to sustain its position relative to the industry leaders.

Cuts in Discretionary Expenses

During rapid growth periods, companies are likely to make substantial discretionary expenses of an investment nature—e.g., outlays to establish the product, to strengthen distribution, and to finance expansion. As the growth slackens or as objectives are achieved, however, fewer discretionary expenses of this type will be required, thus freeing the money for price reductions. The magnitude of this drop can also be predicted through operating margin analysis, although it is more difficult to foresee its timing.

High discretionary margins are also vulnerable when competitors lower their profit margins or undertake less expensive marketing methods and resort to price cutting in order to gain a larger market share. Analysis of discretionary expenses will reveal the magnitude of such potential price reductions.

During periods of substantial excess capacity, the temptation may develop to make sales so long as this will cover out-of-pocket costs, resulting in a major price break. Such conditions, however, cannot last indefinitely. As demand catches up with capacity, prices will usually return to a level at which the most efficient industry leaders can still make a reasonable return on their investment.

Conditions of Entry

Often overlooked is the fact that a high rate of growth does not necessarily make for profitable business opportunities. Indeed, dramatic foreign growth rates have often obscured the dangers of low profitability and the difficulty of entry. What is more, even conditions of high profitability may obscure formidable obstacles to foreign entry.

A look at the operating margin provides a first indication. A company experienced in its industry, and thus knowing how much it requires to manufacture, pay for research, sell, and so forth, is able to judge fairly easily whether the operating margin in a foreign industry is either "narrow" or "wide". Such an evaluation is often facilitated—as will be explained later in this article—by using an analytical grid which compares operating margins of the same industry in different countries.

A wide operating margin indicates that a new venture can incur high levels of involuntary and discretionary costs. As would be expected, a margin tends to be wide when:

Even the industry leaders have a comparatively low scale of output.

The industry leaders have high discretionary expenses or cash requirements for marketing, product development, construction of new capacity, or diversification programs.

There is insufficient competition.

The industry leaders have priced their products to maximize their profits even though this induces smaller competitors to use minor price reductions as a competitive weapon in furthering sales.

The leaders are inefficient manufacturers or marketers.

Narrow operating margins, on the other hand, reduce a company's flexibility and are significant hurdles for foreign entry, regardless of whether "tight" or "loose" competitive conditions prevail. A tight industry will be characterized by relatively low profits for the industry leader, while loose competitive conditions permit satisfactory profits to both leaders and followers. It is important to recognize, however, that both loose and tight conditions are possible under a wide as well as under a narrow operating margin.

Combinations of Conditions

(1) A *narrow* operating margin in an industry usually results in *tight* conditions, allowing only few discretionary expenses (including profits) after involuntary costs have been incurred. To illustrate:

The German refrigerator industry has margins only 30% to 40% above materials costs. Two giant firms are dominating the field. The product lines of both firms consist of stripped-down models. Manufacturers engage in little merchandising, maintain minimal sales forces, offer only limited service, and allow low distribution discounts based on the quantity shipped. The overriding emphasis is on price, effectively forestalling entry by newcomers and threatening the profitability of small followers.

(2) Narrow operating margins also permit loose competitive conditions. For instance:

The German radio and television industry operated in 1959 within a narrow operating margin, but because of plants of large scale most participants experienced generous profits. In spite of this high profitability, the narrow margin imposed formidable entry goals for a new venture in terms of production volume and of market-share objectives. Last year, the industry moved to tight competitive conditions as participants used part of their discretionary profit money to cut prices.

(3) An industry enjoying a *wide* operating margin may nevertheless experience fierce competition, resulting in *tight* conditions. Given the levels of involuntary costs as well as the discretionary expenses required to compete effectively, profitability may be low. To illustrate again:

The French refrigerator industry is, in spite of its higher operating

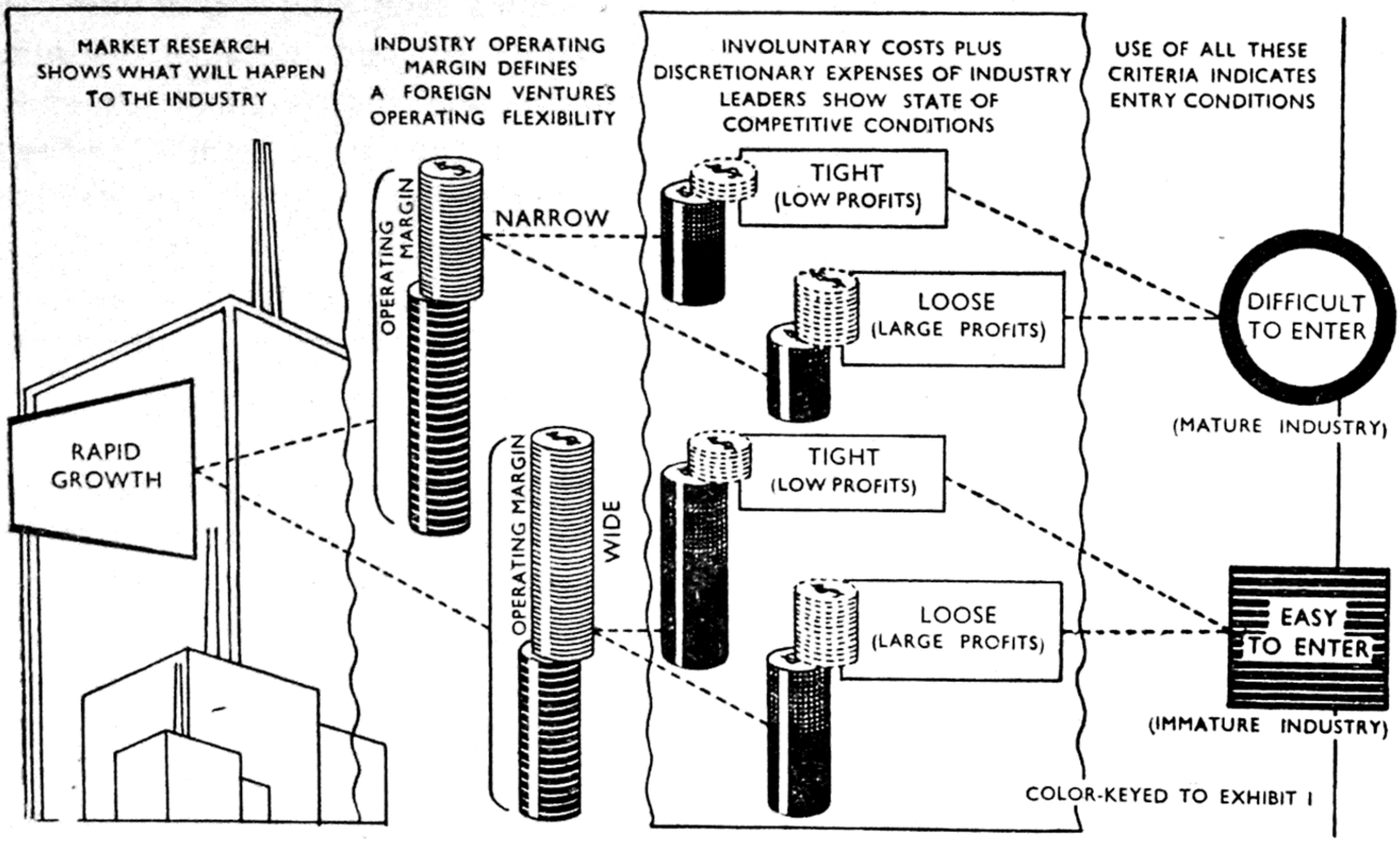
margin, almost as competitive as its German counterpart. The difference in margin is almost entirely absorbed by higher involuntary costs (due to smaller plant scales) and higher discretionary expenses (in view of limited distribution channels). One large firm selling stripped-down products at a low price (much as German firms are doing) is competing with other firms selling better made models at a premium through their own captive distribution channels and engaging heavily in retail promotions.

(4) On the other hand, in Europe there are still many industries with *wide* operating margins and loose competitive conditions—what might be called immature industries—in which entry is not only relatively easy to achieve but may also prove highly profitable. However, timing is most important because an immature, loose industry may rapidly move to highly competitive, tight conditions. For example:

In 1960 the washing machine industry in both Britain and Germany experienced wide operating margins under loose competitive conditions. Each market was dominated by one large company which had achieved maximum economies of scale in production. However, in both cases the leading company was not seriously challenged; and, therefore, it was able to maintain relatively high price levels. Because of low involuntary costs the leader in each market clearly was able to retaliate quickly and effectively against challengers, thus changing the competitive conditions from loose to tight.

In sum, experience shows that opportunities and difficulties in *entering* a foreign industry are more a function of the magnitude of the operating margin than of the profitability of industry members. A wide operating margin can provide a better opportunity for entry than a narrow operating margin *whether the industry leaders are profitable or not.* For instance, the French refrigerator industry, despite its lack of profitability, probably provided an easier entry opportunity than did the German television industry. On the other hand, a profitable industry with narrow operating margins may be very difficult to enter. These combinations of conditions and their implications are summarized in EXHIBIT II.

EXHIBIT II. ANALYZING THE CONDITIONS OF ENTRY



Choosing a Battleground

The most important condition of entry is that the company's initial marketing objectives create discretionary margins which are large enough to sustain its growth objectives. Recognizing the importance of maintaining the venture's position relative to industry leaders, management may see that it is not sufficient merely to match their discretionary expenses; it may be necessary to exceed the other firms' expenses substantially. For example, if there is a shortage of distribution channels, the capture of which is critical to achieve success, management may have to spend more than competitors on the product lines, services, or promotion needed to secure these channels.

However, the wisest strategy may be to undertake efforts that do *not* duplicate the programs of industry leaders. The chances to achieve success are often enhanced if management selects its own battleground instead of imitating what the established firms are doing. If so, the important thing still is to make sure that the new approach is consistent with the discretionary margin it will provide.

One area where a new venture may have considerably more flexibility than industry leaders is pricing. Often, industry leaders wish to maximize their profits by holding the line on prices. This will often be done at a price level that gives considerable discretion even to followers with higher involuntary costs. As a result they can use small price decreases as a competitive weapon to increase their market share and thereby their total profits. In the end, their constant nibbling at the leader's position results in a loss of his market share. For example:

In 1960, competitive conditions in the German and the British washing machine industries were very loose largely because each field was dominated by one firm which was not seriously challenged and because washing machines, unlike refrigerators, justified considerable discretionary expenditures in service, quality manufacture, and demonstration at retail. Instead of matching the leader's heavy discretionary marketing expenses, an entrant might have been able to use price reductions effectively.

Emphasis on price under conditions like these can save many discretionary expenses which, if incurred, would have little impact anyway. To illustrate again:

A German subsidiary determined its advertising budget by using the same percentage of sales as its U.S. parent. The subsidiary spent the budget in approximately the same way. Indeed, its whole marketing approach was a mirror of the U.S. parent's program. In the United States, the parent company was one of the leaders in its industry and was, therefore, reluctant to use price concessions. The subsidiary was equally reluctant to use pricing and relied almost exclusively on advertising, even though its market share was only 5% compared with 45% for the German industry leader. It is hardly surprising that top company executives did not consider the subsidiary's operation entirely successful.

Analysis of the discretionary expense span of industry leaders will also show if a new venture can maintain or improve its relative position by incurring fewer discretionary costs. For example, it is not unusual to see leaders dissipate their resources through unwise diversification, excessive component manufacture, and so forth. These wastes need not be duplicated. Also, a venture may be able to save on discretionary expenses if it is a subsidiary. It may be able to cut down on such items as research and development costs, tooling costs, and design and engineering expenses if the parent corporation has done the needed work in these areas.

CRITICAL CONDITIONS

While fitting the manufacturing, marketing, and growth plan of a business in the limits established by the competitive environment is important, it is not the only task that demands top-management attention. A foreign venture may be unsuccessful if other critical elements are not given equal consideration. We refer to a series of conditions that not only differ markedly among industries, as is well known, but also vary greatly within the same industry from country to country. At the outset of a foreign venture, therefore, it is imperative that management (1) recognize these essential industry conditions and (2) analyze the relevant differences between the United States and the host country. Failure to do so may lead to incorrect assumptions as to a venture's future discretionary margin, resulting

in turn in an insecure "plan" or design that is often beyond correction later on by managers in trouble spots. Five industry conditions deserve particular attention.

Impact of Financial Charges

Financial conditions often vary remarkably among countries because of major differences in (1) depreciation policy, (2) working-capital requirements, and (3) utilization of debt leverage.

A recent study provides a case in point. We observed that three companies, one in the United States, one in France, and the other in Germany, were operating under almost identical conditions in the same growth industry. Even though all three were generating approximately the same cash per dollar of gross plant, they were earning 13%, 23%, and 35% respectively on their equity investment. The reasons for this unusual discrepancy are portrayed in EXHIBIT III. The following points are especially noteworthy:

In France, and particularly in Germany, rapid depreciation provisions provide growth industries with sizable tax-free funds for reinvestment.

In Germany, product shortages enable manufacturers to operate with almost no finished-goods inventories, thus cutting down the working-capital charges.

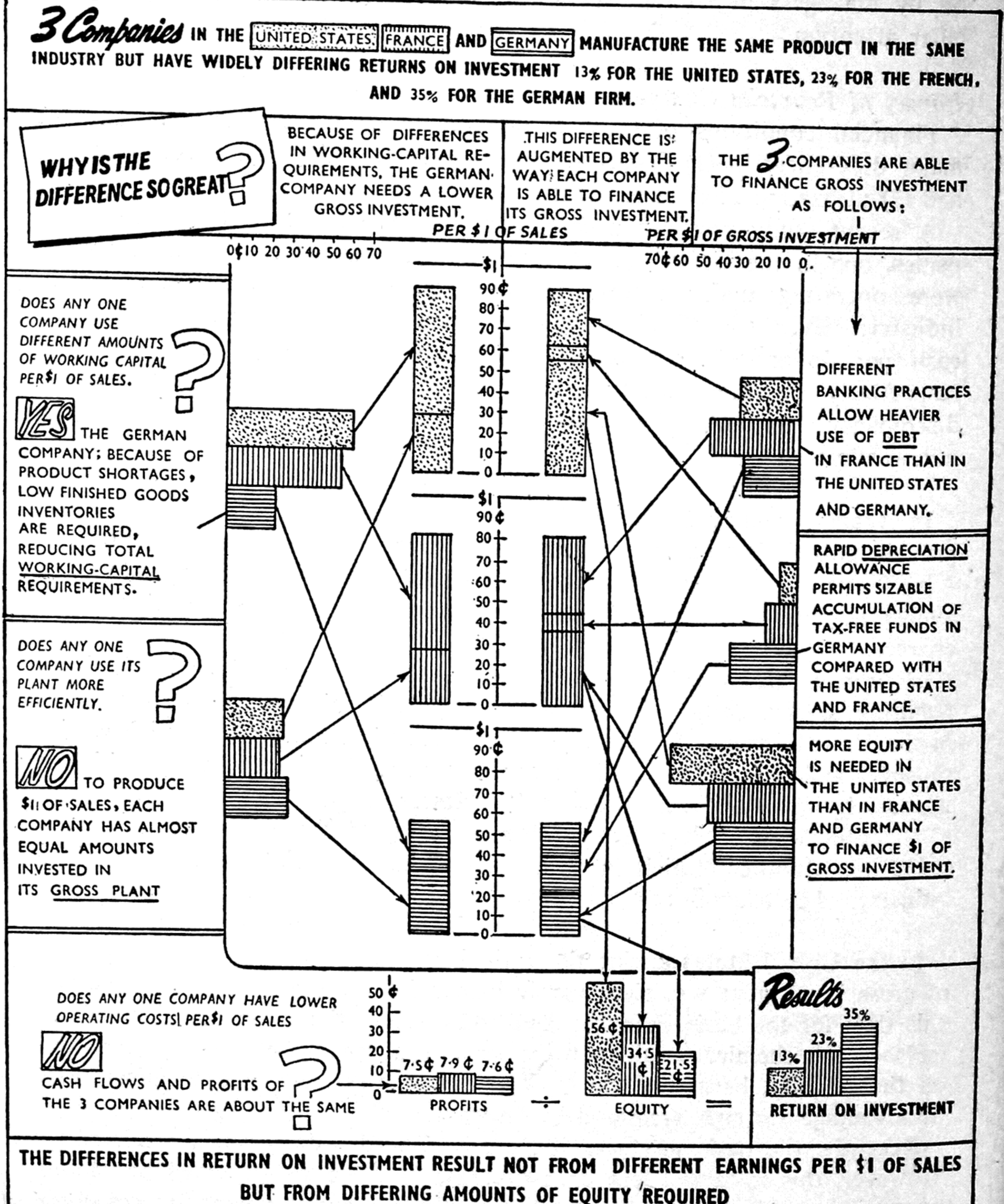
In France, banks lend as much on reputation as on financial analysis, resulting in considerably higher debt-equity ratios than banks would permit in the United States. Consequently, companies in France with a high capital turnover and a good "reputation" benefit from a degree of leverage which is unusual by our standards in the United States.

The utilization of debt leverage hinges partly on the availability of investment opportunities, which in turn depends on the relative maturity of an industry. For example:

In the United States during the early 1950's, the cash generated per dollar of gross investment was significantly higher for producers of finished chemicals than for the basic chemical companies. Nevertheless, companies in both ends of the chemical business were earning approximately the same return on their equity, because basic chemical companies were able to offset their disadvantage through greater debt leverage.

Recently, the basic producers have experienced a decrease in profitability. However, this is caused less by a decrease in the cash generated per dollar of gross investment than by the fact that the industry's financial resources available for investment have increased faster than have the available investment opportunities, which in turn has reduced the need for debt and thus cut down the use of leverage. EXHIBIT IV illustrates this experience for two representative U.S. companies.

EXHIBIT III. HOW VARIATIONS IN FINANCIAL CONDITIONS INFLUENCE RETURN ON INVESTMENT



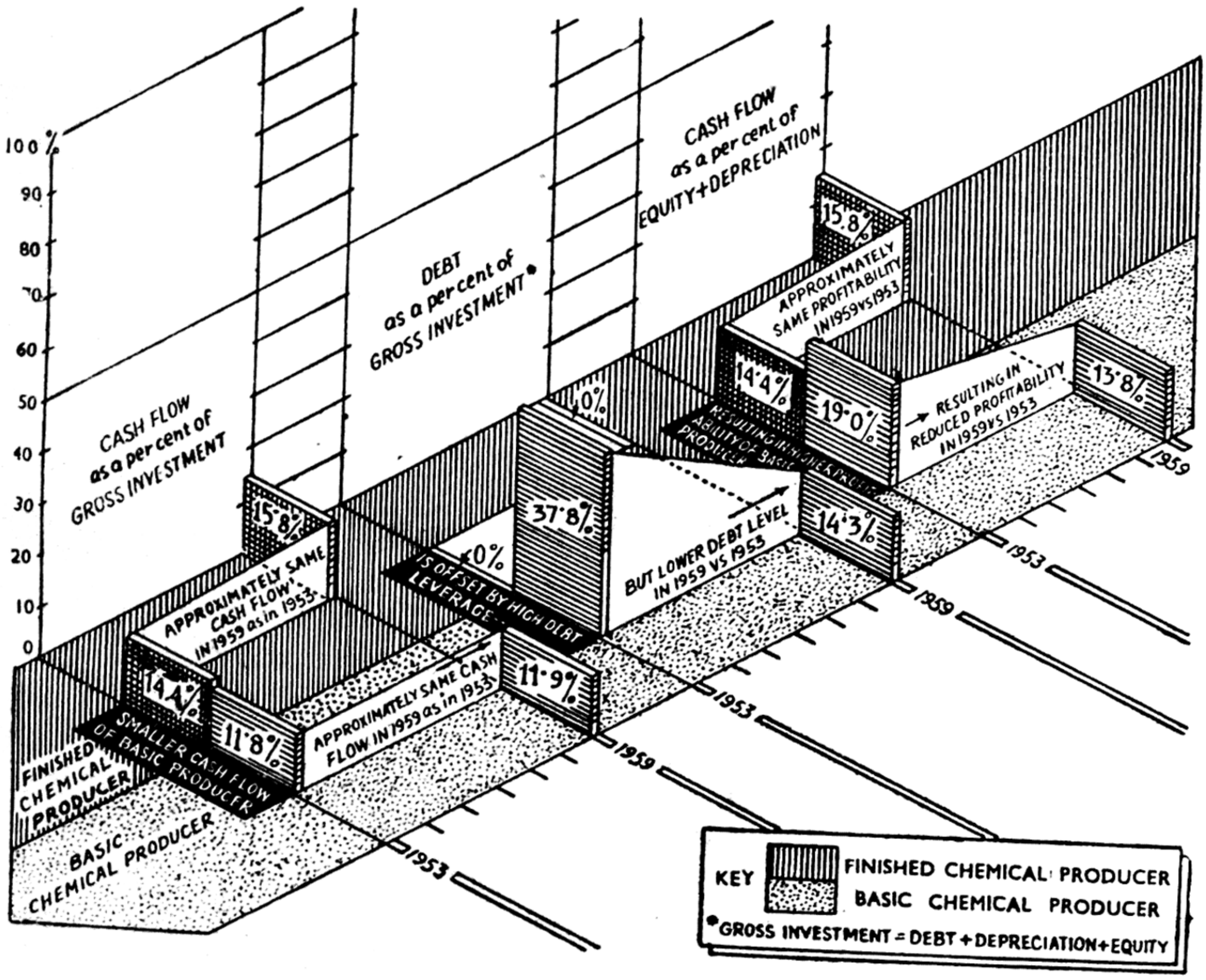
Burden of Overcapacity

Differences in requirements as to when and how much capacity has to be constructed are vital. To illustrate, compare the household appliance industry with the chemical industry :

In the household appliance industry, the ratio of sales to gross plant investment is very high, while profit margins are rather low. The latter element makes low costs imperative, while the high capital turnover requires tight control of capital. The vital implication is that one has to be very careful about building too much in excess of current demand; large plants are vital to mass-production economics, but if constructed too far ahead of the time that demand materializes, the resulting drain on profits can be disastrous.

In spite of these basic truths, several household appliance companies in Europe have succumbed to the temptation of building—far in excess of their market share—huge modern plants which they felt were vital in their type of mass-production industry. U.S. companies in particular—influenced, perhaps, by the fact that overcapacity is common at home—seem to have lost sight of the heavy burden which surplus capacity imposes if competi-

EXHIBIT IV. IMPACT OF DEBT LEVERAGE ON PROFITABILITY



tors are operating at near capacity and setting their prices on that basis. Their large, not fully utilized, plants in Europe have constituted a severe drain on profits and have become especially burdensome when financed by bank debt, as the experience described in EXHIBIT V demonstrates.

The profitability conditions of the chemical industry are very different.

The emphasis is on process economies and chemical routes with ancillary problems of location, raw materials supply, plant scale, and outlets to the market for several coproducts. New processes, based perhaps on new material and having different scale economies, may change the competitive position of a particular project markedly, as may new developments in the market. The industry thus experiences a high degree of flux and change.

With most chemicals requiring a large investment in plant for each sales dollar, high profit margins are necessary to justify the investment. Usually, price levels decline with time, while costs mostly depend on scale of operations. Hence, there is a considerable premium on "getting in early" on a new development when profits are large. Early starters, if they succeed in maintaining their initial market position in subsequent periods of maturity for the field, will also be enjoying the cost advantages of large plant scale supported by market leadership. Thus, "thinking early" and "thinking big" are both necessary ingredients in a successful chemical venture.

Specialization & Concentration

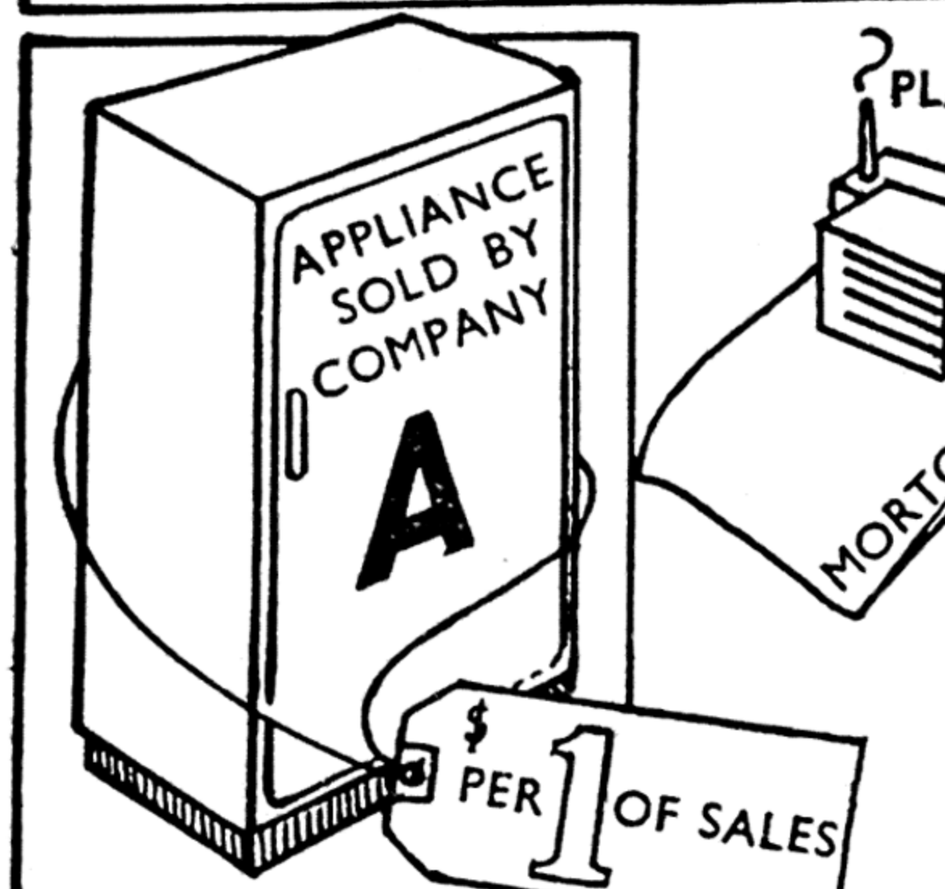
Another critical factor to watch is the need for specialization and concentration rather than diversification. Not always are the former important, but in industries where they are crucial, a great deal may hinge on top management's sensitivity to them. As illustrations we can again look at the chemical and household appliance industry :

Thinking big in the chemical industry requires a certain concentration of investment funds. Concentration, however, necessitates a high degree of confidence. Lack of sufficient confidence may lead to several small projects to hedge against the failure of any one project. This is undesirable because, while hedging in small ventures to spread risks may ensure survival, it does so only at a subsistence level; it is the bold large-scale operation that makes the money in this industry.

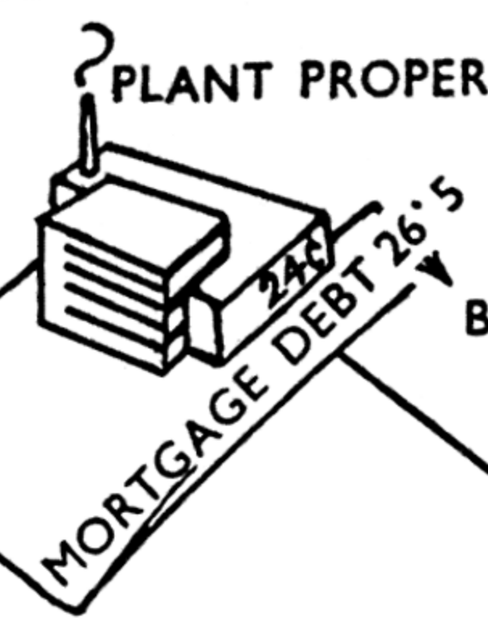
At the same time, specialization and concentration are complicated by what might be called *structural* requirements. Entry usually is not possible without the satisfaction of a wide range of such conditions as having a low-cost and secure source of raw materials and marketing or disposition arrangements for the several coproducts which are simultaneously manufactured in a variety of chemical processes. Also, a successful marketing program may require several complementary products, thus further extending the scope of a chemical operation abroad. It is inability to satisfy these structural requirements completely which inhibits foreign entry by chemical companies in a major way. Thus, even large American chemical firms have experienced major difficulties in entering the European market.

Specialization in the household appliance business is crucial for different reasons. Because of its narrow margin, price and cost control must be very tight, with the result that top management must place a great deal

EVEN THOUGH TWO APPLIANCE COMPANIES MAKE THE SAME SALES AND PROFIT MARGINS ------- THEY DIFFER IN TERMS OF CAPACITY PLANNING AND RESULTING DEBT ----- WITH SEVERE IMPACT ON THEIR PROFITABILITY



PLANT PROPER SIZE

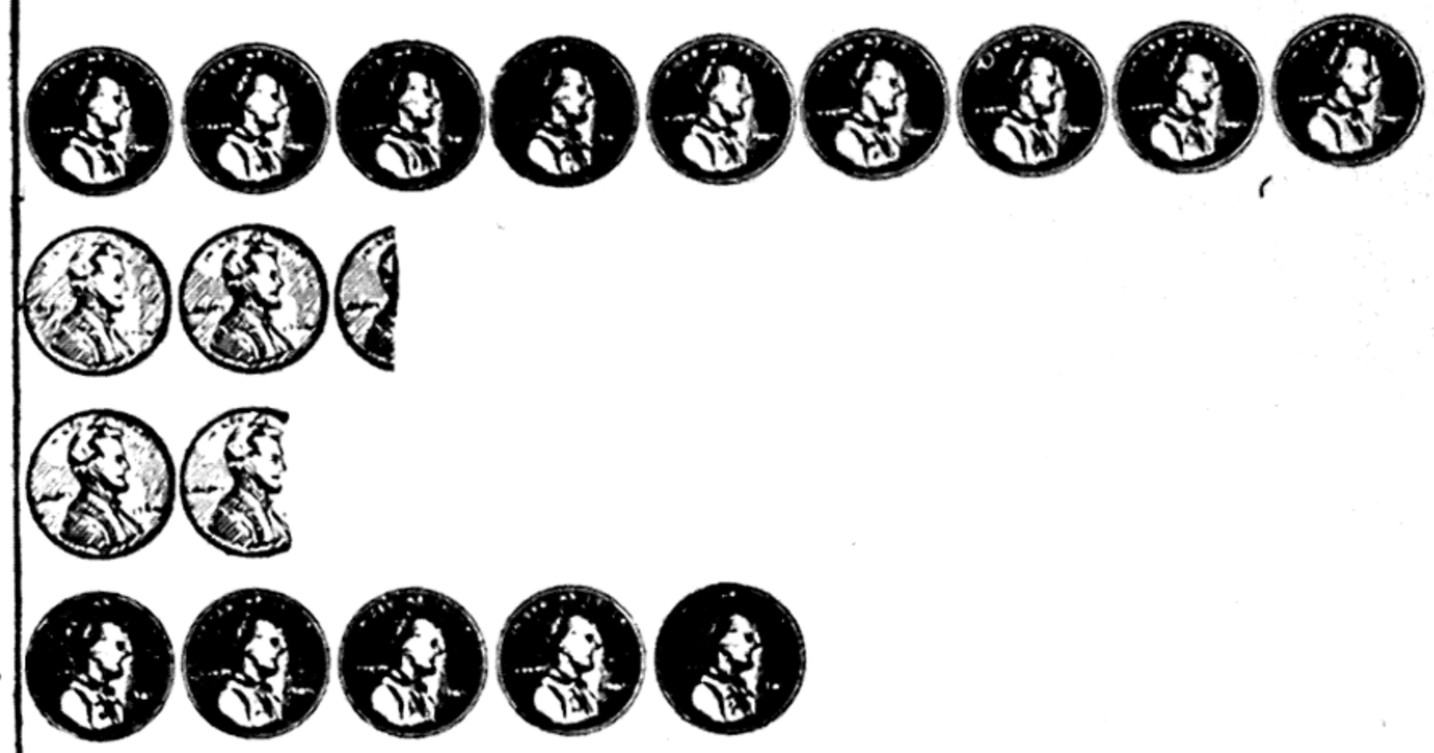


APPROXIMATELY SAME PROFIT MARGIN AS FOR B

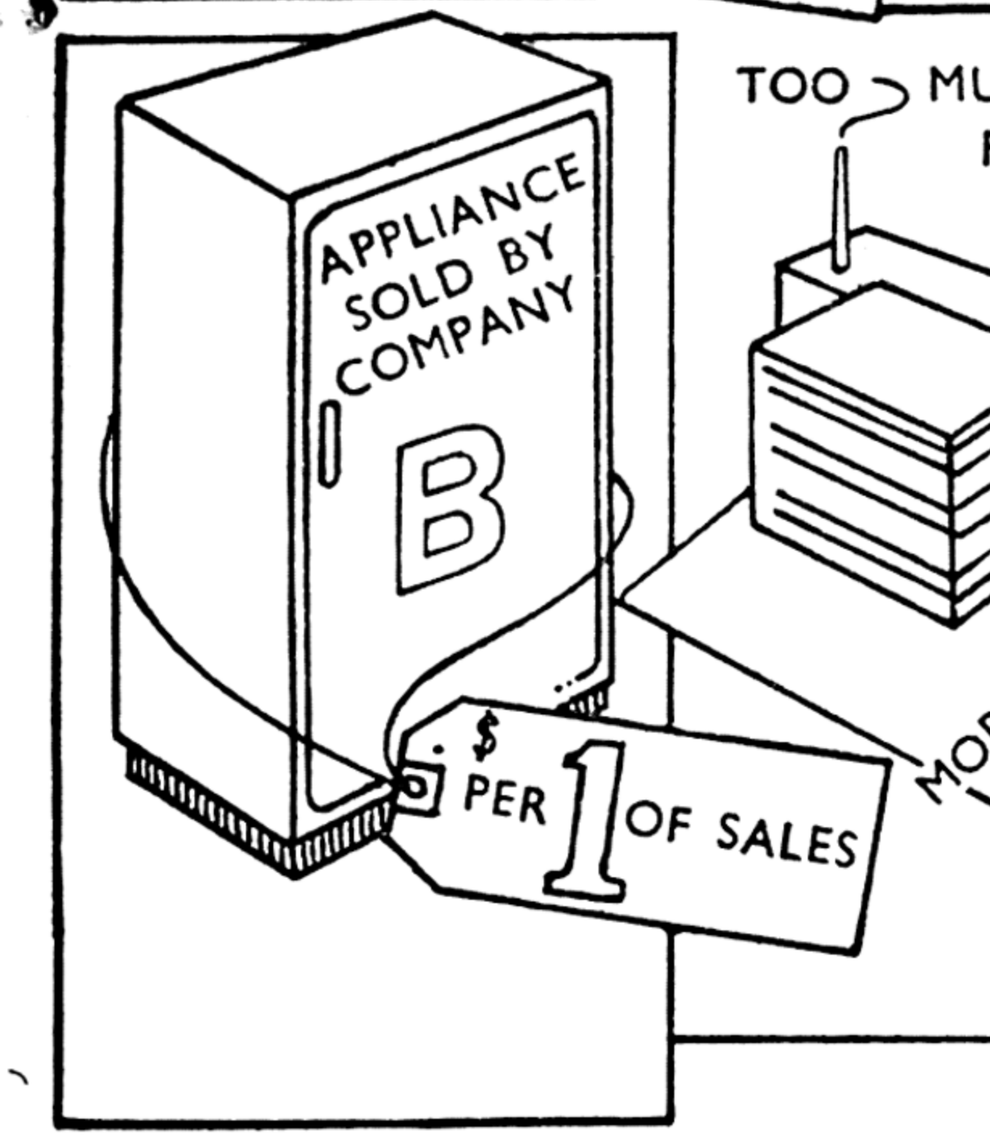
BUT REQUIRING MODERATE DEPRECIATION CHARGE *(AT RATE OF 10% OF PLANT)*

WITH MODERATE INTEREST CHARGE *(AT RATE OF 6·2% OF DEBT)*

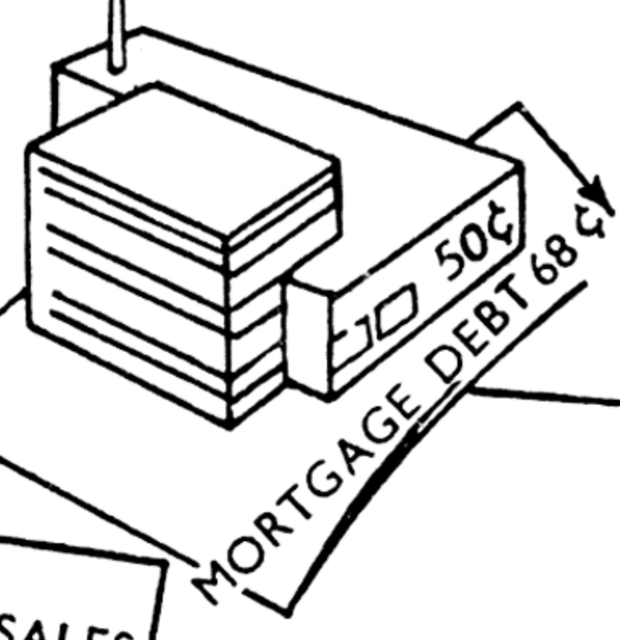
RESULTING IN **PROFIT** *(BEFORE TAXES)*



RETURN ON INVESTMENT AFTER TAXES *16%*



TOO MUCH PLANT EXPANSION FOR CURRENT DEMAND

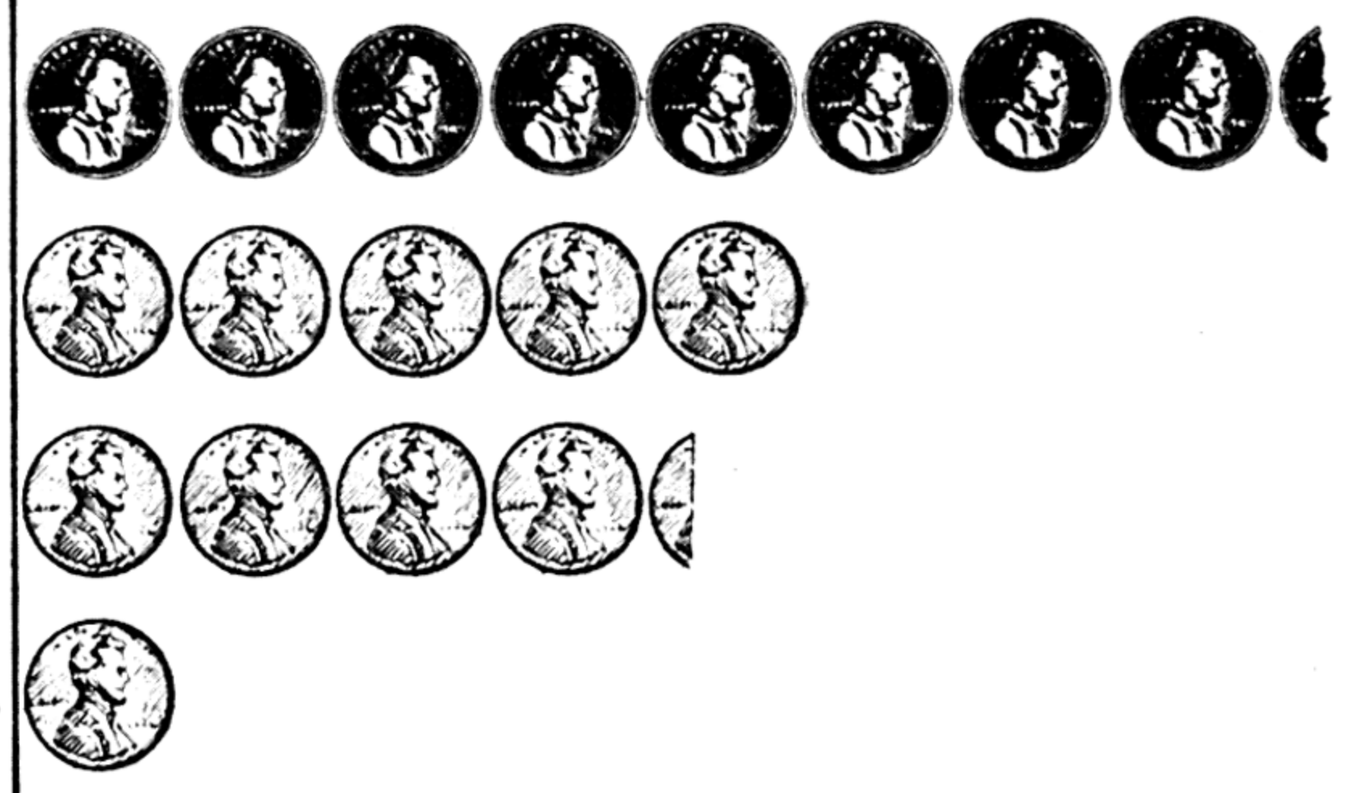


APPROXIMATELY SAME PROFIT MARGIN AS FOR A

BUT REQUIRING EXCESSIVE DEPRECIATION CHARGE *(AT RATE OF 10% OF PLANT)*

WITH EXCESSIVE INTEREST CHARGE *(AT RATE OF 6·2% OF DEBT)*

RESULTING IN **LOSS**



RETURN ON INVESTMENT AFTER TAXES *0%*

of reliance on the ability of the manager in immediate charge of operations. However, price concessions will always be required to move inventories that inevitably pile up because even the best forecasting cannot fully anticipate all variations in consumer demand. Hence, considerable attention must be given to systems which keep inventories low as well as to the skill of merchandising. The latter, in fact, can be defined in the appliance industry as the ability to move inventories with the minimum concession in price.

Therefore, the type of management necessary is one that combines promotional skill with a fine sense of control. Close familiarity with the appliance business has shown that management will work best when both these qualities can be found in one man. And because so much sensitivity is required in the merchandising job, it is best performed when only one major product is handled. Consequently, there are convincing arguments for specialization in the appliance business.

Product Policy

Different income levels in foreign countries often demand different product lines from those offered in the United States.[1] Nevertheless, the major European operations of some U.S. firms are exclusively devoted to manufacturing the U.S. product. Because of size, versatility, quality, or price, American-type products usually occupy a place only at the top of the effective European product line. With most of Europe's current market growth occurring not in these products but in the *basic* models, the result is that the firms mentioned are losing their market shares. This leads to undercapacity operations of plants that are already relatively small, thereby increasing costs. Indeed, the U.S.-type products can usually be supplied more economically from American plants than from European sources.

Distribution Requirements

As was mentioned earlier, distribution can be one of the critical obstacles to successful entry into international business. It is therefore vital to analyze the particular distribution requirements for an industry as well as the prevailing conditions in the foreign country. Differences among countries can be most significant, requiring great flexibility and varying policies on the part of international businesses. *Even in the same industry* the distribution setup can favor the entrant in one country, while constituting a major hurdle for him in another country. To illustrate:

In the German consumer-goods industries, wholesalers are by tradition non exclusive, making it difficult for leading manufacturers to control distribution. The alternative, direct selling, may increase costs more than

[1] See Raphael Hodgson and Michael Michaelis, "Planning for Profits in World Business", HBR November-December 1960, p. 135.

prices can support. Hence, an opportunity exists for the smaller manufacturer to an extent precluded in countries where there are distribution bottlenecks. However, the situation puts greater emphasis on other marketing elements, such as price and reputation. For instance, it may increase the importance of advertising. This provides an opportunity for the importer who can advertise, who can be expected to meet prices, but who usually has difficulty in controlling distribution in a foreign country.

In France, the actual shortage of distribution (a large city such as Lyons has only two really capable appliance wholesalers) puts an extraordinary burden on newcomers in the industry. They normally must sell direct, and in France—with its widely dispersed population—this is a very expensive proposition. Also, distributors who are available insist on a full line of white goods (i.e., refrigerators and washing machines), a condition which can tempt manufacturers into a full-line operation that (as we have indicated) is difficult to manage.

In Britain, distribution is similar to what it is in the United States with a relatively large number of exclusive wholesalers. Some manufacturers have begun to sell direct, a condition which has left their former wholesalers available to importers who wish to use them.

INTERNATIONAL COMPARISONS

By comparing the operating margins of companies in different countries, management can easily recognize the opportunities for entry. The question that executives may face now is: Can the policies and practices which permit a profitable operation at home under a lower operating margin also prove successful abroad? As our earlier discussion of industry conditions has shown, there are inherent dangers in transferring the reasoning that works in an industry from one country to another. Operating margin analysis checks false analogies by providing a useful framework for evaluating them. For example:

Most electrical components in Europe are sold at a price several times the cost of materials, compared with an operating margin of only 80% in the United States. This points to sizable opportunities. But before any action can be taken, it is necessary to ask why operating margins are so much larger in Europe, and whether it is appropriate to analogize American involuntary and discretionary costs in determining how a U.S. entrant should behave in this industry in Europe.

Involuntary costs appear excessively high in Europe because of lack of standardization and because a large number of companies have relatively small scales of manufacture. On the basis of American experience, it would appear desirable to standardize the product line around a few basic types, impose it on the industry at a low price, manufacture in great quantities,

and "shake the business down". One manufacturer is doing precisely this. At present, this firm cannot meet demand; delivery times are up to 15 months! It has become an outstandingly profitable operation and has not yet been seriously challenged.

In the case of *discretionary* expenses, however, an analogy with U.S. experience does not appear relevant. For instance, discretionary expenses in one U.S. electronic systems industry have become truly defensive; it has become a competitive necessity here to spend between 15% and 20% of sales in providing custom-tailored systems engineering to industrial customers. Without this provision, a company's market share would suffer seriously. In Europe, on the other hand, not nearly as much systems work is required. Also, current growth requirements lead to long deliveries, resulting in minimal sales expenses or direct sales of components to large users.

Thus, while U.S. experience in the involuntary cost area appears to be a promising guide, the opposite is true in the case of discretionary expenses.

Threats and Opportunities

International comparisons of operating margins are helpful in still another way. Foreign import threats or export opportunities can be spotted by comparing the domestic operating margin in a given country with importers' operating margins. The operating margin of an importer indicates the degree by which the selling price in the importing country less import duties and freight exceeds the materials cost in the exporting country. It thus expresses for the firm selling abroad the margin within which both the domestic manufacturing and the foreign sales effort must be conducted.

By calculating the operating margin for various exporting nations and using the domestic operating margins, management can construct a grid of opportunity which compares the foreign opportunity with that at home. An example is shown in EXHIBIT VI. Such a grid also shows the discretionary cash available for any volume of goods to be moved abroad.

Knowing its position relative to that of foreign competitors, a firm can decide whether and how to enter international markets. This analysis will take into account both the industry conditions and the nature of competition in the foreign country (which implies analyzing the discretionary expenses of the established firms). To illustrate the total approach:

The opportunity grid in EXHIBIT VI shows that in 1959-1960 a German refrigerator manufacturer could expect a 61% and 68% operating margin in France and Britain respectively, compared with 40% in his own market. However, analysis of industry conditions as well as discretionary expenses in France and Britain during that period showed significant differences. In view of France's acute shortage of distribution, it was necessary to spend a significant portion of one's discretionary money on distribution, especially on direct selling. This aspect, combined with lower plant scales, required

higher margins in France than in Germany, while still making for very low profits. In Britain, on the other hand, distribution was less tight and, in spite of high involuntary costs, the industry was enjoying high profits.

As a result, even though German producers could count on almost equal operating margins in both France and Britain, entry into the British market was more profitable and could be more easily achieved. In Britain, price reductions alone proved-highly effective; while in France, the situation would also have required a distribution investment (e.g., a full product line or company-sponsored outlets).

Check Points

In evaluating foreign opportunities, three elements are often of crucial importance: *product line, pricing,* and *distribution*:

(1) In the preceding example, German refrigerator manufacturers had little difficulty of a *product-line* nature because their product was very similar to British refrigerators. Also, commodities such as chemicals, aluminium, steel, paper, or glass are fairly identical among countries, thus not only saving trouble for the producer but also enabling buyers to switch more easily to foreign sources of supply. However, in many instances product lines will differ in composition from country to country, sometimes requiring expensive adjustments. The cost of these adjustments should be taken into account in drawing up the opportunity grid.

(2) Opportunity grids for commodities normally show wide operating margins because a significant portion of a firm's discretionary money is required to meet fixed plant costs. In commodities, as a result, the foreign entrant enjoys wide discretion, giving him greater *pricing* flexibility than that enjoyed by an exporter of differentiated products with their lower operating margins. In short, price cutting is most likely to be effective where there is a wide operating margin, a minimum of product differentiation, and a marked tendency on the part of customers to shop around for low-price suppliers.

(3) The *distribution* bottleneck is normally less critical for commodities than it is for differentiated products. Although a domestic commodity manufacturer may have established a firm hold on local distribution, it does not take much foreign competition, even through irregular channels, to put severe strains on the local pricing structure. On the other hand, the earlier examples from the household appliance industry show how distribution may constitute a serious hurdle to the exporter of differentiated products.

In view of these three elements, the level of tariffs that will inhibit trade must be considerably higher for commodities than for differentiated products such as appliances; the former are more sensitive to changes at the top of the "wall" than the latter are. Therefore, the impact of economic integration in Europe with its gradual abolition of tariff levels will most

probably be felt more quickly and more strongly by commodity producers. This may force them to become continental in scope more rapidly than manufacturers of appliances and other differentiated products.

EXHIBIT VI. RELATIVE OPERATING MARGINS OF INTRA-EUROPEAN SALES OF 150-LITRE REFRIGERATORS, 1959-1960.

(Margins existing in each country are shown in black)

DOMESTIC SALES / EXPORTING COUNTRY	IMPORTING COUNTRY: FRANCE	GERMANY	ITALY	BRITAIN
FRANCE	50	8	(6)	56
GERMANY	61	40	6	68
ITALY	81	37	45	81
BRITAIN	47	10	(2½)	75

NOTE: The operating margin is calculated as follows: (1) from the sales price in the country of destination subtract (*a*) the tariffs, taxes, and freight costs to ship the goods there, and (*b*) the materials cost in the country of origin; (2) divide the figure thus obtained by the materials cost in the country of origin. (Figures in parentheses indicate negative margins.)

CONCLUSION

Opportunity analysis imposes a strong discipline on business planning by ensuring that both the immediate and the ultimate goals of management are consistent with the industry's current and future competitive conditions. Such goals, in turn, can be translated into clear entry and participation requirements for a foreign venture. These requirements have to be consistent with the firm's capabilities and willingness to commit the necessary resources. It is the reconciliation of these interrelated objectives which makes the application of operating margins so useful. For example:

Suppose that a venture has a 50% operating margin and that management's target is a volume of X dollars. Estimating the involuntary costs at this volume plus the discretionary expenses required to achieve it, executives can determine whether the needed outlays can be covered by the 50% margin while leaving an adequate profit. If not, either the venture should be abandoned or the sales objectives must be raised. Perhaps a larger marketing investment would produce sales levels of a magnitude large

enough to lower involuntary costs to the point where an adequate profit could be made within the 50% operating margin.

Opportunity analysis enables management to cut through the confusion of current fluctuations and erratic circumstances to the conditions of ultimate success. It will not exaggerate these conditions nor lead to the extraordinary pessimism that, say, a run on prices may otherwise induce. Also, it helps executives to foresee any important differences between the venture under their consideration and the industry leaders'. The very discipline of this exercise may reveal errors in the initial project—for example, by demonstrating that instead of spreading resources over several projects it might be better to concentrate on one, or that the contemplated program is too large for the resources a company is able or willing to commit. Thus, opportunity analysis leads to consistency in planning in terms of:

The immediate goals of a venture.
The ultimate goals of a venture.
The parent company's capabilities.

Let us consider each of these elements in turn.

Immediate Goals

In terms of the discretionary margin, a project should be designed to avoid starting at too great a disadvantage with direct competitors. Thus, the test of viability of a new venture will be whether it starts in a sufficiently advanced form to assure progress as well as profits, considering the leaders' position, their probable rate of growth, and the corresponding decline of their involuntary costs. Consequently, if competition in the field chosen is already established at a certain scale and cost level, supported by certain distribution outlets and promotional resources, it is absurd to try to enter the business with a higher cost and a smaller distribution investment.

These statements may seem evident enough, but some highly sophisticated American companies have recently undertaken ventures in Europe that are laboring precisely under this type of disadvantage—all the results of an inadequate initial plan. If it is the scale of a chemical plant or the type of process that is at fault, the error cannot be rectified without a major new investment. If a consumer products business ignores a virtual distribution monopoly of its competitors, it cannot rectify the situation without a major investment in direct distribution. Recognition of these additional investment requirements at the outset might have changed management's thinking about the initial venture.

Selection of immediate goals should be based on recognition of the rate of growth of the market, and the objective should be at least to maintain the firm's relative position with the leader's. The route to this objective may

lie either in direct competition with industry leaders or in avoiding the field of direct competition altogether. There is no better way to recognize the costs of various strategies than to catalogue the marketing mix of every competitor and to determine, by analysis of discretionary expenses, what each method costs and what sales volume is supporting it. With these data should be included the "defensive" costs of many types of business—e.g., the very high systems expense that is characteristic of the American process control industry, or the high level of research expenditure imposed on the pharmaceutical industry by rapid product obsolescence and product insecurity.

An analysis of this type can be invaluable in helping management to recognize:

1. The margins that must be provided for various channels of distribution, which in turn helps with the selection of those channels that would be within a venture's resources and objectives.
2. The cost of developing direct distribution, if satisfactory distribution is no longer available, or of challenging manufacturers in existing channels.
3. The size of the service organization and the level of promotional effort (e.g., advertising expense and point-of-sale effort) required to sustain a business.
4. Whether complementary product lines are necessary to sustain the distribution system and, if so, what the cost of purchasing or manufacturing such lines is.
5. The needs for new capacity and product-development programs to maintain a profitable position.
6. The discretionary savings that might be achieved if different competitive methods are chosen, thus making a contribution to profit or providing a price wedge.

All this means that management can define the entry and participation requirements which will prove effective under given conditions. For example:

If the competitive route requires control of distribution, the system created for that purpose must be maintained through tight inventory policies and satisfactory discounts. Or complementary product lines may have to be carried. It may also be necessary to maintain an adequate market share even though this may involve a declining price policy.

If the competitive route is through price competition, such tactics as frequent model changes or large promotional campaigns may have to be dropped. More attention will have to be paid to the lowest cost distribution through such outlets as mail order or discount houses. It will also be imperative to have an efficient manufacturing plant.

If product features are a vital selling argument, it will be necessary to back them up with outlays of the discretionary type, e.g., advertising and demonstration.

If manufacturing opportunities in a standardized line of products are going to be exploited in an unstandardized market, initial promotion and distribution channels should be consistent with manufacturing plans.

If a small venture is contemplated, management should not select a market or a product that is big but a segment that is within its concentrated capabilities and that can be served independently. A segment of this size may be a source of dissipation or an unimportant sideline for the bigger firms.

If only a small venture with a relatively poor discretionary margin is possible, then management should abandon the project unless it can offset the disadvantage with some special advantage such as U.S. technology, depreciated tooling, or a more complete product line supplied partially by U.S. imports.

Ultimate Conditions

In almost every product field comes a time of maturity. This period is not necessarily an unprofitable one. Market leaders are usually able to stay profitable, as evidenced by the experience of many American businesses. Nevertheless, these periods can be characterized as highly competitive, with operating margins very low because of high volumes of production by the leaders, which enables them to enforce severe price pressures to reduce participation in the industry. The leaders of the German refrigerator and the British television industries have pursued such a program to the extent that only two profitable and dominant manufacturers remain in each field.

The foregoing analysis of operating margins and involuntary and discretionary costs provides some yardsticks of the ultimate conditions within which a venture may be required to operate. For example:

In the case of the refrigerator industry in Europe, discussed earlier, we doubt whether in the long run operating margins can get much below 35% despite the volume levels or degree of competition that may ensue. This is the margin which would provide a satisfactory investment return to a manufacturer who has achieved his distribution objectives and who is manufacturing at a scale of about 300,000 units a year. A participant who achieves this level of production and marketing and who does not dissipate his management talent should have a permanently profitable condition. Unless management is prepared to operate under ground rules such as these, it would be unwise to enter this business.

The implications of such an analysis depend completely on management objectives. For example, a company might decide not to stay in a business

for a long period but enter only for early profits and sell out before competition gets tough. Some chemical ventures are launched on this basis. With innovation providing an early lead, prices are set to maximize profits regardless of the competition that is invited. A rapid payback makes the operation worthwhile, regardless of the ultimate consequences.

Extent of Commitment

A foreign venture's goals and the resulting entry and participation requirements must also be consistent with the parent company's capabilities, resources, and willingness. It is perhaps the *unwillingness* to commit physical resources and management rather than the *incapability* to do so that creates the real deficiency of so many foreign ventures. Easy profits in an immature, loose industry entice companies to risk the luxury of limited operations. At times, in fact, the limited foreign operations of American firms appear to be the consequence of attempts by operational managers to gamble with time in order to have at least some foreign program; if they were to place heavy demands on corporate purse strings, they might kill the contemplated foreign program altogether. Perhaps the weakness of several American foreign operations may be traced to this problem more than to any other.

If foreign operations are limited at first in order to conserve corporate funds, is the company willing to pitch in with more capital later on during the "shakedown"? It requires an unusually determined and confident management to increase investments in a losing business in order to secure a competitive position. Therefore, if a firm is incapable or unwilling to commit sufficient resources, it may be preferable to forget about a limited operation in a large field. On the other hand, it *may* still be profitable to select a *narrow* field in which a full-scale operation can be conducted. Companies with limited resources might, therefore, do well to reverse the usual process of analysis. Instead of choosing the field first and the cost of entry afterward, they might first determine the cost of entry they are willing to pay and then select projects accordingly. Rather than match the firm to the field, in other words, it would be better to match the field to the firm.

In this endeavour opportunity analysis once again becomes a valuable tool for decision makers by pointing up the possibilities of using resources in the most economical way. Four of these possibilities stand out and, because of their pertinence to management's final decision, make a fitting close to our discussion:

1. *Better timing*—Even though the risks of a venture may be greater, an early start makes it much easier to achieve a viable position by building up quickly to a competitive scale of manufacture or to an adequate market share. Furthermore, poor starts can be rescued more easily.

This possibility of reducing costs is important in Europe today because there are many areas of considerable immaturity there comprising industries that, in the United States, rank high in maturity. For instance, a large part of the electrical manufacturing industry in Europe still enjoys a great deal of looseness, lack of production standardization, and continuing market growth.

2. *Acquisition*—This is often a very inexpensive method of entry into mature businesses, especially when an unprofitable firm is acquired which fills top management's structural objectives either as a source of supply or as a means of distribution. (The latter is particularly important during the maturity of a field, when a slackening rate of growth makes entry difficult for outsiders.)

3. *Specialization*—This approach enables a company to make limited resources go further and achieve a strong relative position in the field in which it concentrates, without compromising its product line or distribution requirements.

4. *Exploitation of special skills*—This kind of effort may significantly reduce the demands on a foreign venture, especially in relation to its competitors. For instance, research and technical know-how developed in the United States may give the venture an obvious edge in competing for sales. Similar results may be achieved by supplying parts of the product line or certain components from the United States, by using idle or obsolete machinery and tooling from American plants, by utilizing the parent corporation's design and engineering staffs, and so forth. Such backing by the parent company may also enable a significant reduction of a foreign venture's discretionary expenses.

12/*The Adoption Process : Foundation for Research on Human Behavior*

Understanding the adoption process of new products is essential if the firm is to capitalize on the notion of market segmentation. This paper discusses the nature of the adoption process, the kinds of change involved, and the different adopter categories which have been identified as a result of the research which has been conducted on this subject.

For many products, the process of adoption follows a rather uniform pattern, from the time the new product is developed until it is widely accepted by the ultimate consumers. More is known about the adoption of agricultural products and practices than about others. Rural sociologists have been concerned with the introduction of new practices and with new product adoption in agriculture for a number of years, and they have systematically studied the process by which change takes place. In addition, some studies have been made of other kinds of innovation, including the adoption by doctors of new wonder drugs for treatment,[1] the adoption of new educational practices by school systems,[2] and the adoption of color television.[3] The process of adoption in all these cases has been quite similar. There are exceptions to the pattern; for example, black and white television. The general pattern appears so widely, however, that it is the central theme of this report.

Researchers have charted the course of a new product by determining *when* people adopt it. The curve which results is a simple one, the well known probability curve, in cumulative form.[4] A few people adopt a product at first, then a few more, followed by a rather sharp increase and finally a leveling off when most of the potential consumers have adopted the product.

[1] Katz, E. The two-step flow of communications: an up-to-date report on an hypothesis. *Public Opinion Quarterly*, 1957, 21, pp. 61-78. Menzel, H., & Katz, E. Social relations and innovation in the medical profession: the epidemiology of a new drug. *Public Opinion Quarterly*, 1955-56, 19, pp. 337-352.

[2] Mort, P. R., & Pierce, T. M. *A time scale for measuring the adaptability of school systems.* New York: Metropolitan School Study Council, 1947.

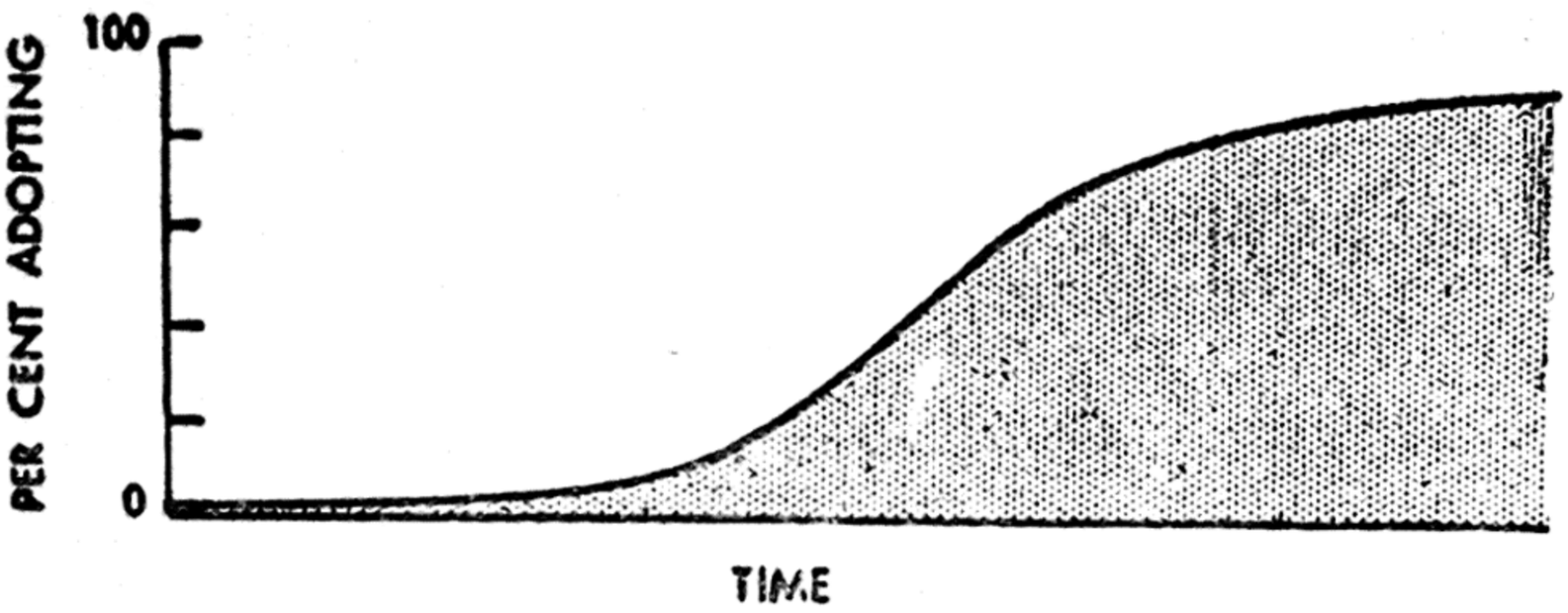
[3] Batten, Barton, Durstine & Osborn. *Colortown.*

[4] North Central Rural Sociology Committee, Subcommittee for the Study of the Diffusion of Farm Practices. *The diffusion process.* Ames: Agriculture Extension Service, Iowa State College, Special Report No. 18, 1957.

SOURCE: From *The Adoption of New Products: Process and Influence* (Ann Arbor, Michigan: Foundation for Research on Human Behavior, 1959), pp. 1-8.

Such a curve is presented in general form in Figure 1. No scale is given for the time dimension, because this differs from product to product. A number of studies indicate, however, the *form* of the curve remains constant, and therefore that knowledge of the time required for a first

Figure 1



relatively small group to adopt a new product will, by establishing the time scale for that product, make possible fairly accurate prediction of the rate of adoption by the rest of the applicable universe.

The Kind of Change

The time it takes from introduction to wide-spread acceptance depends, in part at least, on the kind of change involved. The adoption of a new product can be viewed as a special case of attitude change. Almost by definition, such a change encounters resistance. The new product or method usually alters or replaces something which is already part of the individual's pattern of thought. If the change under consideration is a really major one, it is quite likely that the attitudes and feelings associated with the old way are strongly held and will account for a great deal of resistance. On the other hand, if the change is trivial, the associated attitudes may be taken on easily. (They may also be cast off easily, of course.) Most new products or practices probably encounter resistance somewhere between these two extremes.

When new products are being adopted, there are different levels of *complexity* of change. The greater the complexity, the more resistance is aroused, and the longer the period required for adoption. Researchers have listed four levels of complexity in the changes usually confronting farmers who are adopting new products or practices.[5] Least complex is a simple change in materials or equipment. Such a change might be the decision to try another brand of fertilizer or to increase the amount already being used. A change in technique is slightly more complex. The farmer must learn to use the new method and this may involve more risk. An example might be applying fertilizer along planted rows, instead of broad-

[5] Same reference as footnote 4. Also, Wilkening, E. A. The role of communicating agents in technological change in agriculture. *Social Forces*, 1956, 34, pp. 361-367.

cast over the field. The third level involves both a change in materials and a change in technique. A farmer who has never used fertilizer faces such a change. He must adopt the new material, acquire the equipment to apply it, and learn how to use the equipment. The most complex change is a change of enterprise; for example, a change from cotton growing to dairying.

Obviously there are shadings in complexity among these four types of change, and other kinds of new products may involve a wider range of complexities than do farming practices. However, the level of complexity is an important factor in determining the time it takes for a new product to be adopted. Fifteen years elapsed between the introduction of hybrid seed corn and its adoption by almost 98 per cent of the farmers.[6] Other changes take longer. The adoption of new educational practices by school systems took 50 years.[7] Some changes take place quickly.

It is not always easy to tell how complex a change is involved in a new product. Hybrid corn is one example. Initially, this seemed like a simple change in materials. Actually, it was a far more complex change. Farmers feared the total reliance on commercial sources for seed corn, something they had previously produced for themselves. Furthermore, many farmers took pride in their ability to select good seed corn from their own crop, and they were accorded status for this skill. The new hybrid corn not only made the farmer feel more dependent, it also did away with an important source of prestige. A large majority of farmers had probably adopted hybrid corn within five years of the initial distribution, but it took fifteen years before almost all farmers were using it. Now, when a new hybrid variety of anything is introduced, it is adopted much more quickly. Examples are hybrid chickens and hybrid hogs.

The complexity of the change is only one important factor in determining the time required for adoption. There are others. For instance, *cost* is important. The more costly the item, the longer it takes before it is widely adopted. *Rate of return* and *Visibility of return* are also important. A change which has rapid and obvious results is adopted more quickly than a change with slower, less visible results. In the long run, of course the change which produces slower results may return more, but it still is not adopted as quickly. A new fertilizer is likely to be adopted more quickly, for example, than soil conservation practices.

THE INDIVIDUAL ADOPTION PROCESS

The decision to adopt a new product is not simply a "yes" or "no" decision,

[6] Ryan, B., & Gross, N. C. The diffusion of hybrid seed corn in two Iowa communities *Rural Sociology,* 1943, 8, pp. 15-24. Also, Ryan, B., & Gross, N. C. *Acceptance and diffusion of hybrid seed corn in two Iowa communities.* Ames : Iowa Agriculture Experiment Station, Research Bulletin 372, 1950.

[7] Same reference as footnote 2.

nor is it something that happens all at once. When an individual is confronted with the possibility of change, he goes through several mental stages before he finally makes up his mind to adopt or not to adopt. Five stages in the decision-making process may be distinguished.[8] Farmers readily recognized these stages when questioned regarding their decisions to make changes and adopt new products.

Awareness comes first. At this point, the farmer learns about the new product. He knows it exists, but he has only general information about it. The *interest or information* stage follows. If interested, the farmer begins to collect more specific information about the new product. If his interest continues to grow, he wants to know the potentialities of the new product for him; whether or not it will increase his income or contribute to other ends considered by him to be important. The next step is the *mental application or evaluation* stage. The farmer goes through the change mentally and asks himself, "How would I do it? Can I do it? If I do it, will I be better off?" The final stage before adoption is the *trial* stage. At this point the farmer tries the product out on a small scale if this is possible. Many farmers purchased a small can of weed spray and used it on their gardens before they used it on their crops on a large scale. A great many farmers planted six acres of hybrid seed corn the first year, the acreage one bushel of the new seed would sow. Some products cannot be tried out on a small scale, and it seems quite reasonable to expect such products to require a longer adoption time. However, people seem to be quite ingenious at finding ways to try new ideas. Some housewives prepared small amounts of food for freezing, and either rented locker space or used a neighbor's freezer before they gave up traditional canning methods and bought the necessary equipment for themselves. Marketing people have been aware of the value of free trials for many years. The trial stage appears to play a crucial role in the decision-making process. However, the other stages are important too, and probably give meaning to this final step before adoption. They should not be ignored.

The last stage is the *adoption* stage. At this point the farmer decides to adopt the new product and begins using it on a full scale. Presumably he is a "satisfied customer", at least until some other product comes along to replace it and the adoption process starts again.

ADOPTER CATEGORIES

Obviously, not all people adopt a new product at the same time. The adoption curve illustrates this point and suggests that some people arrive at a decision more quickly than others. Some people adopt very quickly. Others wait a long time before they take up the new product, and still others never adopt. There has been a great deal of interest in these individual

[8] Same reference as footnote 4.

differences and great deal of speculation about "innovators", those who are first in a community to adopt a new product. To these individual differences, the Iowa State researchers took the data from a number of independent studies of new product adoption by farmers. They divided people into groups according to time of adoption,[9] and then studied each group. Significant differences appeared among them. These were the groups they distinguished and studied:

	People adopting		*Cumulative total adopting*
First	2.5%	innovators	2.5%
Next	13.5%	early adopters	16.0%
Next	34.0%	early majority	50.0%
Next	34.0%	late majority	84.0%
Last	16.0%	laggards	100.0%

"Innovators" are arbitrarily defined here as the first 2.5 per cent to adopt the new product. Based on the data compiled, these generalizations appear for farm innovators.[10]

They have larger than average farms, are well educated and usually come from well established families. They usually have a relatively high net worth and—probably more important—a large amount of risk capital. They can afford and do take calculated risks on new products. They are respected for being successful, but ordinarily do not enjoy the highest prestige in the community. Because innovators adopt new ideas so much sooner than the average farmer, they are sometimes ridiculed by their conservative neighbors. This neighborhood group pressure is largely ignored by the innovators, however. The innovators are watched by their neighbors, but they are not followed immediately in new practices.

The activities of innovators often transcend local community boundaries. Rural innovators frequently belong to formal organizations at the county, regional, state, or national level. In addition, they are likely to have many informal contacts outside the community; they may visit with others many

[9] Note: For convenience in making comparative studies, researchers used standard deviations of a normal distribution to establish the percentage breaks between categories. People who fall within one standard deviation above the mean are considered in the early majority; people who are between one and two standard deviations above the mean are early adopters. Similarly, people within one standard deviation below the mean are late majority, etc.

[10] Same reference as footnote 4. Also, North Central Rural Sociology Committee, Subcommittee on the Diffusion of New Ideas and Farm Practices. *How farm people accept new ideas.* Ames: Iowa Agriculture Extension Service, Iowa State College, Special Report No. 15, 1955. Also, Rogers, E. M. Categorizing the adopters of agriculture practices. *Rural Sociology,* 1943, 8, pp. 15-24.

miles away who are also trying a new technique or product, or who are technical experts.

The "early adopters" are defined as the next 13.5 per cent of the people who adopt the new product. According to the researchers, early adopter farmers have the following characteristics.

They are younger than the average farmer, but not necessarily younger than the innovators. They also have a higher than average education, and participate more in the formal activities of the community through such organizations as churches, the PTA, and farm organizations. They participate more than the average in agricultural cooperatives and in government agency programs in the community (such as Extension Service or Soil Conservation). In fact, there is some evidence that this group furnishes a disproportionate amount of the formal leadership (elected officers) in the community. The early adopters are also respected as good sources of new farm information by their neighbors.

The third category of adopters is the "early majority", the 34 per cent of people who bring the total adoption to 50 per cent. The number of adoptions increases rapidly after this group begins to adopt. (See chart.)

The early majority are slightly above average in age, education, and farming experience. They have medium high social and economic status. They are less active in formal groups than innovators or early adopters, but more active than those who adopt later. In many cases they are not formal leaders in the community organizations, but they are active members in these organizations. They also attend Extension meetings and farm demonstrations.

The people in this category are most likely to be informal rather than elected leaders. They have a following insofar as people respect their opinions, their "high morality and sound judgment". They are "just like their following, only more so". They must be sure an idea will work before they adopt it. If the informal leader fails two or three times, his following looks elsewhere for information and guidance. Because the informal leader has more limited resources than the early adopters and innovators, he cannot afford to make poor decisions: the social and economic costs are too high.

These people tend to associate mainly in their own community. When people in the community are asked to name neighbors and friends with whom they talk over ideas, these early majority are named disproportionally frequently. On their part, they value highly the opinions their neighbors and friends hold about them, for this is their main source of status and prestige. The early majority may look to the early adopters for their new farm information.

The "late majority" are the fourth category. These are the 34 per cent of farmers who have adopted the new product after the average farmer is already using it.

Those in this group have less education and are older than the average farmer. While they participate less actively in formal groups, they probably

form the bulk of the membership in these formal organizations. Individually they belong to fewer organizations, are less active in organizational work, and take fewer leadership roles than the earlier adopters. They do not participate in as many activities outside the community as do people who adopt earlier.

The last category, the final 16 per cent of those who adopt a new idea, are the "laggards". This group may include the "non-adopters" as well if the new product is not used by everyone.

They have the least education and are the oldest. They participate least in formal organizations, cooperatives, and government agency programs. They have the smallest farms and the least capital. Many are suspicious of county Extension agents and agricultural salesmen.

These are some of the important differences among the adopter categories. They may provide useful guidelines for further exploration. For example, each of these categories plays an important role for the others in the adoption process. Innovators are the pioneers, and early adopters wait to see the innovators' results before trying the new product themselves. The early adopters, in turn, often influence the early majority. In addition, each of these categories seems to rely on different sources of information and influence, other than the sources already described.

13/Market Potentials and Marketing Management

DONALD R. G. COWAN

Precise measurement of the market potential for a product is essential if a firm is to operate with any high degree of efficiency. This article, after discussing the importance of market potentials, goes on to describe the time and place aspects of market estimation. A distinction is made between the potential for the company and potentials for salesmen. The different methods of establishing potentials and quotas and their strong and weak points are also discussed.

Management is showing renewed interest in adequate measurement of market potentials. Since 1940, general attention to this important phase of sales administration has not been as keen as in the period from 1925 to 1940. There have, of course, been exceptions as to short periods, particular firms, and special phases of the broad problem of potentials. After World War II, for example, a number of companies were keenly interested in their industry's and their own prospective share of the total economy, but they gave scant or superficial attention to potentials for their salesmen's territories.

Market Potentials

Recently in marketing research, technicians have devoted their time to costly fact-gathering about buyers' motives, preferences, and buying habits for particular products and marketing channels. All too often, however, these research men overlook the gold mine of market information continually gathered and tabulated in the records of their company's sales and selling activities and the information gathered by outside agencies, especially the government bureaus such as the U. S. Department of Commerce's Bureau of the Census and Office of Business Economics. Many of these research technicians do not know the methods of mining the valuable information about market potentials from these internal and external sources, which can be done at very low cost in comparison with fact-gathering by sample surveys. The latter have cast a hypnotic spell over researchers and executives alike. To be sure, these surveys help many companies to improve products, selling appeals and marketing methods and, by so doing, to increase their shares of the potential market. But interest in these surveys should

SOURCE: From J. C. Halterman and T. W. Meloan (eds.), *Market Potentials and the Use of Census Data* (Chicago: American Marketing Association, 1957), pp. 1-9. Donald R. G. Cowan: Professor of Marketing, University of Michigan.

not divert sales administrators from their central task, which is to know the market potentials, where the market is located, and how and in what quantities the selling and advertising effort of various kinds must be applied to accomplish company objectives profitably.

In considering this central task of sales management, one finds the term "market potentials" is used with different meanings and dimensions. First, market potentials may refer in a general way to the market provided by the whole economy as measured by total national income or total national expenditure. Gross National Product is often used for this purpose. Estimates of Gross National Product for various periods in the future relate to the nation's future market potential.

Second, market potentials may be regarded as one of numerous sectors of the economy such as consumer soft goods, consumer durable goods, capital equipment, or construction. These segments do not rise or decline either in unison or at the same rate, and in a broad sense are competing with each other.

Third, market potentials may mean a single industry's participation in, or share of, a major segment of the economy, such as the food industry's share of consumer's soft goods, or the refrigerator industry's share of consumer durable goods. Here again, there is competition between industries. The increased use of automobiles is said to have affected the character of the demand for clothing and housing. Among food producers, it is well known that the purveyors of starchy foods have lost ground. One is reminded of the American Meat Institute's advertising campaign, sustained over many years, for the purpose of inducing consumers to spend a larger share of their food expenditures for meat.

Fourth, market potentials may refer to the size of the market for a particular product's classification, such as high-priced, medium-priced, and low-priced cars.

Fifth, market potentials may pertain to the sales volume and possibilities of a particular company.

Sixth, it very frequently applies to the individual products of a company.

Seventh, market potentials may be one of the previous concepts narrowed down to individual areas, such as regions, states, counties, cities, or other geographic areas. The Cleveland Chamber of Commerce is referring to the total market potential of the wide area served by that city when it speaks of Cleveland as the best location in the nation. As a general measure, the Chamber might use the Gross National Product or expenditure within a 500-mile radius of Cleveland if it were available. To a considerable extent, it is a "pie in the sky" concept as applied to a region. More frequently, however, the dimension of location in market potentials has been applied by general sales managers to the districts supervised by their district managers and the numerous smaller areas covered by their salesmen. All too frequently the salesmen have reason to feel that the market potentials estimated for their respective territories are shares of the Gross National Product, pieces

of the "pie in the sky", rather than rational measures of the potential market for the products they are trying to sell in their territories.

Eighth, the concept of a market potential may apply to the amount of sales which might be made to particular customers. It is frequently used in selling industrial goods, such as steel and machinery and, in consumer goods, to large retail systems.

Ninth, any market potential applies, either expressed or implied, to a period of time. Without the dimension of time, market potential cannot be expressed quantitatively or have much meaning. When past potentials are analyzed to show the shares obtained by sectors, industries, companies, or products, they provide a basis for judging past performance and for setting objectives for the future. Usually the objectives to be attained in short periods of time, such as a year or portions of a year, are termed "quotas". There may be quotas for the company, product, or departments, and both total quotas and separate product quotas for sales districts and salesmen's territories. The determination of realistic quotas depends not only on market potentials but also on the means by which the quota is to be attained within a given period. Hence, the quota has a time dimension extending into the future.

These nine meanings of market potential have been outlined in order to clarify our thinking. All of them have their place in helping to determine more exactly the future objectives of the sales department for given periods in the future. These objectives are likely to be unrealistic, even nonsensical, if they are not also based on proper consideration of the effort which the management is willing to expand in attempting to attain the potential. Further, it should be kept in mind that all judgment about the future is based on past experience. The analysis of what has happened in the past is undertaken merely to make more certain that the interpretation of that experience is as correct as possible, thereby reducing the element of chance in dealing with the future.

The general steps by which a company and its sales department may set up market potentials and objectives may be divided into two major divisions: those required in determining total market potentials and objectives for individual products or closely related product groups, and those relating to sales territory and customer potentials and objectives. Furthermore, in both there should be a clear understanding as to the length of time to which the objectives will apply, as this affects the market influences to be considered.

For a product or major product-group, the establishment of total market potentials and objectives for a ten-year period will involve various measurements and considerations. The first determination is the relation of past sales to market growth as measured by population, segments of the population, and Gross National Product. Since the future birth rate is an uncertain element, several estimates of future population may be used in

projecting future sales expansions. Recently, there is hope that by inquiring from married couples at different ages what their intentions are in regard to having children, a better idea of population increase will be obtained. For the present, greater reliance may be placed on a known relationship of sales growth to adult population because the children living today will be added to the adult population over the next ten years, while deductions due to mortality may be made with a high degree of certainty.

On the assumption that certain levels of employment and hours of work will apply over a ten-year period, the relationship of past sales to total employment or total hours of work may be projected into future estimates. In similar fashion the Gross National Product and segments of the Gross National Product may be projected under certain assumptions such as the growth of the work force, the rate of employment, and the increase in productivity; and in turn these projections may be used to estimate future market potentials from past relationships.

Other long-term changes are taking place in the economy, such as the growth in the retired and aged groups, migration from some areas to others, and changes in climate. Changes in technology, as well as in the volume of finished goods, are affecting the potential for industrial goods sales. These changes will increase the potentials of some products and reduce those of others.

The available supply and probable price of raw materials may affect the ten-year market potentials of some products. Changing technology in the making of a specific product and its competing products may also deserve consideration in determining long-range potentials.

Next, the product's share of its market may be analyzed to show how and why it has fluctuated or changed in past years.

Finally, the resources of the company and the willingness of the management to use those resources for expanded manufacturing facilities, research to improve the product, improved production methods, advertising and selling effort have very important influences upon the product's market penetration. Some managements are content to "hold the line" or even allow the sales of some products to decline while they devote company resources to expanding the sales of others. In effect, they have decided that the long-range sales quotas for some may represent declines while for others they may represent increases both in absolute amounts and in shares of the industry market potential. Thus, many other considerations should be combined with the measurement and prediction of market potentials in determining objectives and sales quotas for the long-term future.

Having set up long-term potentials and objectives for particular products, the company and its sales department may set up shorter-term objectives for a year at a time, based on the planned yearly increase necessary to attain the long-range objective, and a modification of the planned yearly increase is necessary to allow for the effect of the year's business outlook

on sales, and changes in the company's expenditures to attain the year's objective based on the business outlook. In some companies, attainment of the yearly objective may be divided into quarterly or monthly allotments, and upward or downward modifications in planned expenditures may be made after reviewing the degree to which the quarterly or monthly objectives are accomplished.

The monthly or quarterly review of the company's short-term product objectives or quotas provides an opportunity for keeping them realistic by modifying them in the light of changing business conditions. This action is necessary because the ability to make accurate predictions of the business outlook a year or even six months ahead has not been, and may never be, perfected. In our economy, both consumers and business people are free to choose what and when they will buy, without apparent notice.

For some firms there are special opportunities for making seasonal predictions with a high degree of accuracy. The meat packers, for example, know fairly accurately farmers' intentions to breed livestock and poultry, the current numbers of livestock on farms and ranges, farmers' marketing intentions in the light of the available feed supplies and crops, the comparative prices of livestock and feeds, the inventories of meat in coolers. The packers can estimate closely the sales volume of meat because it must move into consumption at a price because of its perishable nature, and also because there are 170 million stomachs to be filled daily at some price. Current employment, income, and competition of other foods make the prediction of prices to be realized much less certain.

For other kinds of manufacturing, considerable progress is taking place in measuring intentions to spend on the part of consumers and business firms. The Survey Research Center at the University of Michigan, working on behalf of the Federal Reserve Board, has been able, through surveys of consumer attitudes and intentions, to indicate for the ensuing year the direction but not the degree of change to be expected in consumer spending for consumer durable goods. Since 1947, business firms' expectations of business conditions have been surveyed quarterly and analyzed with considerable predictive ability by Dun and Bradstreet. Other meritorious surveys relating to the vital question of intentions to spend for capital goods have been undertaken by McGraw-Hill, the Department of Commerce, and very recently the National Industrial Conference Board, for capital appropriations by large companies. Again, they seem to indicate the direction but not the degree of change to be expected. The effect of announcing the results of all these surveys upon the subsequent actions of consumers, and more especially business managements, has apparently not been examined. Moreover, none of these repeated surveys have been in existence for more than ten years, and their ability to predict has not been put to the test of a subsequent major decline in business such as took place in 1920-21, 1929-30, or in 1937-38. Company managements, therefore, are justified in

making monthly or quarterly modifications in their over-all quotas on the basis of their current experience and their interpretations of the business outlook for one, two or three months ahead.

Area Potentials

Often the company's national product quotas are divided among the district managers' and salesmen's territories. They may then be used as sales objectives; as the basis for allocating selling, advertising, and other efforts; and as benchmarks for measuring subsequent performance. On the degree to which this is done with insight and reliability depends the usefulness of the whole procedure. It is worthwhile, therefore, to evaluate the various practices.

The first method is to divide the national long-range potential and next year's quota among the sales territories in proportion to their past sales. This method is defective to the extent that past performance in the various territories has not been in perfect alignment with the varying potentials. As a standard by which to measure subsequent performance, a quota based on past performance penalizes the good salesmen and favors the weak salesmen. If the company uses a similar proportionate division of the long-range potential as its objective, the proportionate shares assigned to each territory will be so much higher than actual sales that they will not be very useful as salesmen's goals. If used for the assignment or reapportionment of selling and advertising effort, it would result in the high performance areas receiving the larger shares regardless of the performance's relationship to the true potential.

The second method is to ask the salesmen to estimate the potentials in their respective territories and set their own tentative quotas for the ensuing year. In some cases these quotas are reviewed and adjusted. Then the national potentials and quotas are distributed in direct proportion to these estimates. One advantage is that the salesmen largely determine their own goals and are then held responsible for attaining them yearly and in the long run.

In selling industrial goods, it is frequently advantageous to require salesmen to construct their potential by studying the possibilities of sales to individual customers. The defects of this method are obviously the salesmen's inability to be objective, to avoid reflecting his own degree of success or failure in the competitive race, and to have accurate and complete knowledge of the possibilities of his territory.

The third method, available only to firms in a few industries, is to base the potential on established records of total industry sales by territories. Examples are the R. L. Polk compilations of car registrations and sales by make and model for each state, county and city, and the Office Equipment Manufacturers Association tabulation of the sales of its members by

counties. The Bureau of the Census has approximated this service by sampling the number of radio and television sets, capital expenditures by industry classifications, and other useful data by counties and cities. These industry tabulations are useful in revealing performances of a company's salesmen in competition with others in the respective territories. The combined industry's sales and the company's salesmen's performances may be used effectively in reallocating selling effort and advertising. In the case of automobiles the sales of an individual make and model may be compared with the sales of competing makes and the total sales of cars in the same price classes by territories. One weakness of this method is that the total industry performance may not be perfect in various territories due to the allocation of effort by the several companies. Several studies have indicated this situation to be true. Another weakness is that such a potential does not provide information as to why the total sales should be higher in some areas than others, and hence fails to give adequate guidance in the distribution of advertising and promotional effort.

The fourth method is the use of a single measure of index by counties and cities by which a company's product potentials or yearly quotas may be distributed among its sales territories. Certain publishing companies have offered their magazine sales for this purpose. One magazine, at least, has built a special index which many companies use. Also, Census tabulations of population, households, and the like may be used as single indexes. The obvious weakness is the naive supposition that a single index can, with acceptable accuracy, reflect the complex influences which combine in different ways to affect the sales of different products and different brands in the same territories. Since the reaction of buyers to the characteristics of a company's products, or to a specific brand, may be different from their reaction to competing products and brands, it follows that sales may not hold the same relationship to income or other market characteristics as the index would indicate, or as the previous method's use of total industry sales might indicate. For example, income variation by areas is a much more potent factor in the sale of a high-quality, high-priced automobile, food or drug, than in their lower-quality, lower-priced counterparts. Indeed, for some products, sales are high where income is low and vice versa. The regional sales of many products are affected in different directions and degree by differences in urbanization of the population, climatic conditions such as temperature, rainfall and the like. Imagine anybody setting up a high Florida sales quota for long fur-lined rubber boots because the single index of Florida potential is high! Imagine relatively high quotas for furnace sales in Los Angeles or air coolers in Minneapolis because of dependence upon the single index. How does a single index apply alike to consumer goods and to industrial goods when it is obvious from Census data that many different industries are concentrated in regions peculiarly adapted to their presence? It should be pointed out, nevertheless, that for some

companies, subsequent tests have shown that a single index has provided a fairly adequate basis for establishing area potentials. Population, for example, is a good general measure of food consumption by areas. A single index, provided by sponsor, has proved to be a good measure of area markets for radios.

The fifth method is to put together a combination of measures of market conditions which are supposed to affect the sales of a particular type of product. A famous example was the attempt made by the late Henry Weaver to combine factors which would measure regional automobile sales potentials. Harvard University awarded him a prize for his labors and published his results. The weakness of this method, which Weaver recognized but did not overcome, is in knowing how to combine the various factors in proper form and with weights which would provide the best measure of regional demand conditions. This method, nevertheless, has been used by some companies.

The sixth method is to develop a combination of factors which affect the sales of a company's product by analysis of the varying product sales by territories. The separate effects of the factors upon sales are measured and combined by multiple correlation techniques. Thus, normals are obtained for the respective territories which take full account of the actual effect of varying conditions upon past sales. Only a few companies have used this method because the technique is, as yet, not known by many marketing research men. Its main weakness is that it is usually too complicated for laymen to use, although there are some very simple and usually adequate short cuts. Also, it cannot be used for determining potentials for launching a new product, since past sales are not available. However it can provide guidance in setting up tentative new-product potentials through the analysis of the sales of similar products.

The advantages of this method are important. It measures the direction of the effect of each factor and combines, with proper weights, the factors which affect the regional sales of a particular product or a differentiated brand. It eliminates multiplication of the same influence in two or more factors, multiplication which cannot be avoided by ordinary methods. It enables the testing and discarding of market measures which are irrelevant to the sales of a given product. It sets up normals which take account of the effect of the conditions in each area thus providing standards against which to measure performance and to distribute effort.

Moreover it makes possible the use of other factors of a different character which affect sales, such as variation between areas in prices, types of competition, types of customers to be chosen for coverage, relative amounts of selling and advertising effort, and others. Separate measurement of such effects are important in making possible the separate establishment of market potentials and quotas. An analyst thus may derive the comparative area potentials for the product based only on the separate effects of measured

market conditions. An analyst may also establish more reasonable quotas for the salesmen because proper allowances may be made for factors over which salesmen have no control such as management's allocation of effort of various kinds and quantities, management's choice of customer types, and others.

These two types of territory measures, the market potential and the salesman's quota, should be distinguished because they may be used for different purposes. The market potential is a guide to management in its distribution of effort and the determination of other policies. A comparison of actual sales performance with this type of potential provides an evaluation of management's ability to manipulate the resources at its command. The degree of variation in sales relative to the area normal market potential measures management's performance.

On the other hand, the comparison of sales with the quota established by use of all known variables not under the salesman's control provides a better measure of the salesman's performance, and a more realistic goal for him. By this method the quota is the normal volume to be expected in each area, taking into consideration market consumptive factors relating to the particular product or product line and in addition all the other factors which the management rather than the salesmen control. Thus the normal quotas become standards, and variation from the normal quotas measures the salesman's performances.

Although quotas established by this method are much more realistic or in keeping with actual conditions than the bald use of very high long-range market potentials, nevertheless, certain practical problems arise. In some areas there are special immeasurable conditions for which a practical allowance should be made. Secondly, a particular salesman may be so far below the normal quota in his territory for a particular product that he cannot be expected to correct the situation in a year. It is therefore necessary to have a review committee to set up the work quotas or goals for one year ahead. The duties of the quota committee may be as follows:

1. Reconcile analytically derived quotas with the need to have attainable goals for the salesmen for a stated future period—quarter-year, half-year, or year. This may be done by discussion with salesmen or regional managers.
2. Interpret the analytical quotas to the organization, explaining their nature as standards.
3. Gather ideas for improvement of the analysis, such as knowledge of additional factors not already test-measured or incorporated in the quotas.

From management's standpoint, products of the establishment of potentials and quotas by correlation analysis are indications of the effect of

varying the number of salesmen relative to potentials, or of varying the amount of advertising or of changing policies as to customer selection. It is a method of analyzing sales to find out what has actually happened under varying conditions. The method may also be applied to the analysis of sales increases and decreases in different areas in order to determine what changes in area factors outside or within the management's control are causing better sales increases in some areas than others. The effect of varying regional prices for some products may be analyzed. These are only a few of the possibilities offered by this type of analysis.

In conclusion we have come quite a distance in a subject of much interest to management. We have reviewed the time and place aspects of market estimation, distinguishing between the potential for the company and potentials for salesmen. In both we have distinguished between market potentials and quotas. We have reviewed the different methods of establishing potentials and quotas, indicating their good and weak points. Perhaps the most advanced method is that of correlation analysis which provides additional useful information to management, is relatively inexpensive as a method, but as yet, is not well understood.

After 30 years of working in this whole area, one may look back to see that much progress has been made but much more needs to be done to help management in setting up potentials and quotas.

14/*The Significance of Social Stratification in Selling*

RICHARD P. COLEMAN

The article helps to clarify when and in what ways social class concepts can be used in developing a marketing plan which is based on the idea of market segmentation. It realistically states that other bases of segmentation may be more useful under certain conditions.

Dating back to the late 1940's, advertisers and marketers have alternately flirted with and cooled on the notion that W. Lloyd Warner's social class concept[1] is an important analytic tool for their profession. The Warnerian idea that six social classes constitute the basic division of American Society has offered many attractions to marketing analysts when they have grown dissatisfied with simple income categories or census-type occupational categories and felt a need for more meaningful classifications, for categorizations of the citizenry which could prove more relevant to advertising and marketing problems. However, in the course of their attempts to apply the class concept, marketers have not always found it immediately and obviously relevant. Sometimes it has seemed to shed light on advertising and merchandising problems and at other times it hasn't—with the result that many analysts have gone away disenchanted, deciding that social classes are not much more useful than income categories and procedurally far more difficult to employ.

It is the thesis of this writer that the role of social class has too often been misunderstood or oversimplified, and that if the concept is applied in a more sophisticated and realistic fashion, it will shed light on a great many problems to which, at first glance, it has not seemed particularly relevant. What we propose to do here, then, is discussed and illustrate a few of these more subtle, more refined and (it must be acknowledged) more complicated ways of applying social class analyses to marketing and advertising problems. In other words, the purpose of this paper is to clarify *when* and *in what ways* social class concepts are significant in selling, and to suggest when they might not be as significant as other concepts, or at least need to be used in concert with other analytic categories.

[1] See W. Lloyd Warner, Marchia Meeker, Kenneth Eells, *Social Class in America* (Chicago: Science Research Associates, 1949).

SOURCE: From Martin L. Bell (ed.), *Marketing: A Maturing Discipline* (Chicago: American Marketing Association, 1960), pp. 171-184. Richard P. Coleman: Social Research, Inc.

The Warnerian Social Classes

The six social classes which are referred to in this paper are those which W. Lloyd Warner and his associates have observed in their analyses of such diverse communities as Newburyport, Massachusetts,[2] Natchez, Mississippi,[3] Morris, Illinois,[4] Kansas City, Missouri,[5] and Chicago. These social classes are groups of people who are more or less equal to one another in prestige and community status; they are people who readily and regularly interact among themselves in both formal and informal ways; they form a "class" also to the extent that they share the same goals and ways of looking at life. It is this latter fact about social classes which makes them significant to marketers and advertisers.

Briefly characterized, the six classes are as follows, starting from the highest one and going down:[6]

1. The Upper-Upper or "Social Register" Class is composed of locally prominent families, usually with at least second or third generation wealth. Almost inevitably, this is the smallest of the six classes—with probably no more than one-half of one per cent of the population able to claim membership in this class. The basic values of these people might be summarized in these phrases: living graciously, upholding the family reputation, reflecting the excellence of one's breeding, and displaying a sense of community responsibility.

2. The Lower-Upper or "Nouveau Riche" Class is made up of the more recently arrived and never-quite-accepted wealthy families. Included in this class are members of each city's "executive elite", as well as founders of large businesses and the newly well-to-do doctors and lawyers. At best only one and one-half per cent of Americans rank at this level—so that all told, no more than 2 per cent of the population can be counted as belonging to one layer or the other of our Upper Class. The goals of people at this particular level are a blend of the Upper-Upper pursuit of gracious living and the Upper-Middle Class's drive for success.

3. In the Upper-Middle Class are moderately successful professional men

[2] See W. Lloyd Warner and Paul Lunt, *The Social Life of a Modern Community,* (New Haven: Yale University Press, 1941).

[3] See Allison Davis, Burleigh B. Gardner and Mary R. Gardner, *Deep South* (Chicago: University of Chicago Press, 1941).

[4] See W. Lloyd Warner and Associates, *Democracy in Jonesville,* (New York: Harper & Brothers, 1949).

[5] The writer's observation on the Kansas City social class system will be included in a forthcoming volume on middle age in Kansas City, currently being prepared for publication by the Committee on Human Development of the University of Chicago.

[6] Some of the phrases and ideas in this characterization have been borrowed from Joseph A. Kahl's excellent synthesizing textbook, *The American Class Structure* (New York: Rinehart & Company, Inc., 1957).

and women, owners of medium-sized businesses and "organization men" at the managerial level; also included are those younger people in their twenties or very early thirties who are expected to arrive at this occupational status level—and possibly higher—by their middle or late thirties (that is, they are today's "junior executives" and "apprentice professionals" who grew up in such families and/or went to the "better" colleges). Ten per cent of Americans are part of this social class and the great majority of them are college educated.

The motivating concerns of people in this class are success at career (which is the husband's contribution to the family's status) and tastefully reflecting this success in social participation and home decor (which is the wife's primary responsibility). Cultivating charm and polish, plus a broad range of interests—either civic or cultural, or both—are also goals of the people in this class, just as in the Lower-Upper. For most marketing and advertising purposes, this class and the two above it can be linked together into a single category of "upper status people". The major differences between them—particularly between the Upper-Middle and the Lower-Upper—are in degree of "success" and the extent to which this has been translated into gracious living.

4. At the top of the "Average Man World" is the Lower-Middle Class. Approximately 30 per cent or 35 per cent of our citizenry can be considered members of this social class. For the most part they are drawn from the ranks of non-managerial office workers, small business owners, and those highly-paid blue-collar families who are concerned with being accepted and respected in white-collar dominated clubs, churches, and neighborhoods. The key word in understanding the motivations and goals of this class is Respectability, and a second important word is Striving. The men of this class are continually striving, within their limitations, to "do a good job" at their work, and both men and women are determined to be judged "respectable" in their personal behavior by their fellow citizens. Being "respectable" means that they live in well-maintained homes, neatly furnished, in neighborhoods which are more-or-less on the "rightside of town". It also means that they will clothe themselves in coats, suits, and dresses from "nice stores" and save for a college education for their children.

5. At the lower half of the "Average Man World" is the Upper-Lower Class, sometimes referred to as "The Ordinary Working Class". Nearly 40 per cent of all Americans are in this class, making it the biggest. The proto-typical member of this class is a semi-skilled worker on one of the nation's assembly lines. Many of these "Ordinary Working Class" people make very good money, but do not bother with using it to become "respectable" in a middle-class way. Whether they just "get by" at work, or moonlight to make extra, Upper-Lowers are oriented more toward enjoying life and living well from day to day than saving for the future or caring what the middle class world thinks of them. They try to "keep in step with the

times" (indeed, one might say the "times" are more important than the "Joneses" to this class), because they want to be at least Modern, if not Middle Class. That is, they try to take advantage of progress to live more comfortably and they work hard enough to keep themselves safely away from a slum level of existence.

6. The Lower-Lower Class of unskilled workers, unassimilated ethnics, and the sporadically employed comprises about 15 per cent of the population, but this class has less than 7 or 8 per cent of the purchasing power, and will not concern us further here. Apathy, fatalism, and a point of view which justifies "getting your kicks whenever you can" characterize the approach toward life, and toward spending money, found among the people of this class.

Now, we do not mean to imply by these characterizations that the members of each class are always homogeneous in behavior. To suggest such would be to exaggerate greatly the meaning of social classes. To properly understand them, it must be recognized that there is a considerable variation in. the way individual members of a class realize these class goals and express these values.

For example, within the Upper Middle and Lower Upper Class, there is one group—called Upper Bohemians[7] by Russell Lynes—for whom cultural pursuits are more important than belonging to a "good" country club. As a result, the tastes in furniture, housing accommodations, and recreations exhibited by the men and women of this "issues-and-culture set"—leaning toward the avant garde and eclectic, as they do—are apt to be very different from those practised by the more conventional, bourgeois members of these status levels. Nevertheless, to both the Upper Bohemians and the Upper Conventionals, displaying "good taste" is quite important, with the differences between them not so much a question of good-versus-bad taste as one of whose form of good taste is preferred (though, to be sure, the Upper Bohemians are usually quite certain theirs is better).

Other sub-categories can be found in these higher classes and parallel kinds of sub-categories can be found in the Lower Middle and Upper Lower classes. Within the Upper Lower Class, for instance, there is a large number of people who are quite concerned with their respectability and spend much of their spare time in church trying to do something about it. Their respectability concerns are not quite like those of the Lower Middle Class, however, for they seem to care more about The Almighty's view of them than of their fellow man's. Thus, the Upper Lower Class might, for certain analytic purposes, be sub-divided into Church-Going and Tavern-Hopping segments, although this would by no means exhaust all possibilities of sub-categorization here.

All of this is by way of indicating that the millions of individuals who

[7] See Russell Lynes, *A Surfeit of Honey* (New York: Harper & Brothers 1957).

compose each social class are not necessarily similar or identical in their consumption patterns, even though they are of equal status socially and share a set of goals and points of view which are class-wide. Thus far, the literature on social class in both marketing journals and sociological publications has emphasized the similarities of people within classes and rarely pointed out these variations. This has been necessary, of course, in order to properly introduce the concept and educate social scientists and marketers to its utility, but it has led on occasion to naive misuse of the concept and ultimate disillusion. In my view, it has come time for us to advance into a more sophisticated application of social class to marketing problems, which involves awareness of the differences as well as similarities within each class.

Social Class Versus Income

Let us proceed now to stating the basic significance of this class concept for people in the selling field. In the first place, it explains why income categories or divisions of Americans are quite often irrelevant in analyzing product markets, consumers' shopping habits and store preferences, and media consumption. For example, if you take three families, all earning around $ 8,000 a year, but each from a different social class, a radical difference in their ways of spending money will be observed.

An Upper-Middle Class family in this income bracket, which in this case might be a young lawyer and his wife or perhaps a college professor, is apt to be found spending a relatively large share of its resources on housing (in a "prestige" neighborhood), on rather expensive pieces of furniture, on clothing from quality stores, and on cultural amusements or club memberships. Meanwhile, the Lower-Middle Class family—headed, we will say, by an insurance salesman or a fairly successful grocery store owner, perhaps even a Diesel engineer—probably has a better house, but in not so fancy a neighborhood; it is apt to have as full a wardrobe though not so expensive, and probably more furniture though none by name designers. These people almost certainly have a much bigger savings account in the bank.

Finally, the Working Class family,—with a cross-country truck driver or a highly-paid welder as its chief wage-earner—is apt to have less house and less neighborhood than the Lower-Middle or Upper-Middle family; but it will have a bigger, later model car, plus more expensive appliances in its kitchen and a bigger TV set in its living room. This family will spend less on clothing and furniture, but more on food if the number of children is greater, as is likely. One further difference: the man of the house probably spends much more on sports, attending baseball games (for example), going hunting and bowling, and perhaps owning a boat of some description.

The wives in these three families will be quite noticeably different in the kind of department stores they patronize, in the magazines they read, and in the advertising to which they pay attention. The clothing and furniture they select for themselves and their families will differ accordingly, and also

because they are seeking quite different goals. This has become very clear in studies Social Research, Inc., has done for the *Chicago Tribune* on the clothing tastes of Chicagoland women, for the Kroehler Company on the place of furniture in American homes, and for MacFadden Publications on the purchasing patterns and motivations of their romance magazines' Working Class readers.[8] (These have been contrasted in turn with the motivations of Middle Class women who read service magazines.)

The Upper-Middle Class wife—even of the struggling young lawyer—usually buys all her public-appearance clothes at specialty shops or in the specialty departments of her community's best department stores; she feels constrained to choose her wardrobe according to rather carefully prescribed standards of appropriateness. In furnishing her home, she thoughtfully considers whether a given piece or a combination of pieces will serve as adequate testament to her aesthetic sensitivities, plus doing credit in turn to her husband's taste in wife-choosing. She pays careful attention to the dictates of the best shelter magazines, the "smart" interior decorators in town, the homes of other women in her class, and maybe that of the boss's wife.

The Lower-Middle Class woman is more single-mindedly concerned with furnishing her home so that it will be "pretty" in a way that suits her and hopefully might win praise from her friends and neighbors. She tries to get ideas from the medium-level shelter and service magazines and is perpetually depressed because her home isn't furnished as much like a dream house as she would like it to be. In this she is quite different from the Upper-Lower wife who is apt to care more about having a full array of expensive, gleaming white appliances in her kitchen than a doll's house of a living room. Where the Lower-Middle housewife usually has a definite style in mind which she's striving to follow, the Upper-Lower woman simply follows the lead of newspaper furniture advertising (and what she sees when window shopping) toward furniture which is "modern-looking", by which she means the "latest thing" that has hit the mass market.

A great many more examples of differences in consumption patterns by class levels could be given, but the principal ones have been well reported already—facetiously by Vance Packard and seriously by Pierre Martineau;[9] for further amplification on this point the latter source is recommended. The significance to merchandisers and advertisers of these findings about motivational differences between classes is fairly obvious, the major idea being that for many products, advertising appeals and merchandising techniques must be differentially geared to the points of view reflected in these three main social classes. Advertising of brands or goods aimed at a specific

[8] This study has been published under the name *Workingman's Wife* (Oceana Press: New York City, 1959) by Lee Rainwater, Richard P. Coleman, and Gerald Handel.

[9] See Pierre Martineau, *Motivation in Advertising* (New York: McGraw-Hill Book Company, 1957) and "Social Classes and Spending Behavior", *The Journal of Marketing*, Vol. 23, No. 2, October 1958, pp. 121-130.

class must take into account the motivations of that class, and not try to sell everything as if it were an Upper Class or Upper-Middle status symbol.

Up to now, we've been talking about product areas—clothing, furniture, and residential neighborhoods—where the relationship between social class and quality of goods purchased is highest. In these things the so-called "Quality Market" and the Upper Middle (and higher) markets coincide. That is, the purchasers of highest quality clothing and highest quality furniture are more nearly from the Upper-Middle and Upper social classes than from the highest income categories, and so on it goes down the hierarchy. The correlation between price of goods purchased and social class is relatively quite high in these product areas while the correlation between price paid and annual income is lower than one might expect.

There is another group of products which are not linked in such a direct way with social class, but neither are they linked with income categories in any obvious relationship. The current car market provides an instructive example of this situation, for the nature of the market cannot be grasped by using one or the other concept exclusively. What is happening in today's car market can only be understood when income categories are placed into a social class framework.

The "Overprivileged" as "Quality Market"

Within each social class group there are families and individuals whose incomes are above average for their class. The Upper-Lower family with an income above $ 7,000 a year—sometimes a product of both husband and wife working, and sometimes not—is an example of this. So, too, is the Lower-Middle Class business owner or salesman who makes more than $ 10,000 a year, but has no interest in either the concert or country clubs of Upper-Middledom and hence is still Lower Middle Class. The Upper-Middle Class couple with more than $25,000 a year at its disposal but no desire to play the "society game" of subscription balls or private schools is also in this category. These are what might be called the "overprivileged" segments of each class. They are not "overprivileged" in the absolute sense, of course; they are "overprivileged", however, relative to what is required or needed by families in their class. After they have met the basic expectations and standards of their group in the housing, food, furnishing, and clothing areas, they have quite a bit of money left over which is their equivalent of "discretionary income".

In much the same way, each class has its "underprivileged" members; in the Upper-Middle Class these are the younger couples who haven't made the managerial ranks yet, the college professors, the genteel professionals, and a few downwardly mobile people from high-status backgrounds who are trying to hang on to what fragments of status they have left—for the most part these people are below the $12,000-a-year mark and they can barely meet some of the basic requirements of Upper-Middle life, much

less experience any of its little luxuries; in the Lower-Middle Class these are the poorly paid bank tellers, the rows of bookkeepers in railroad offices, the school teachers with considerably more status aspiration than income; and in the Upper-Lower Class it is almost any family earning less than $4,500 or $5,000 a year, at today's rates of pay in metropolitan areas.

In the middle of each class's income range are its "average" members, families who are neither underprivileged nor overprivileged by the standards of their class. You might think of this as the Upper-Middle Class family between $12,000 and $20,000 a year, the Lower-Middle family in the $7,000-$9,000 range, and the Upper-Lower family near $6,000 per annum. However, this word of caution is necessary: a lot of people in the middle income range of their class see themselves as underprivileged because they are aspiring to become one of the "overprivileged" in their class or to move on up the ladder to a higher class.

The relevance of all this to the car market is that when you look at this particular market today, you find it is the "average" members of each class, whether Upper-Middle, Lower-Middle, or Upper-Lower, who constitute the heart of the Low-Priced Three's audience; these are the people who are buying Fords and Chevrolets this year and last, and probably next. No longer is the Ford and Chevrolet market just a lower-middle income market, or (in class terms) a Lower-Middle or a Lower Class market. Rather, it is recruited from the middle income group *within each* social class. Indeed, the $15,000-a-year Upper-Middle "organization man" is apt to choose a Ford or Chevy from the Impala-Galaxie level or else a top-price station wagon once he ventures into this market, whereas the average-income Lower-Middle man will settle for a middle-series Bel Air or Fairlane 500, and the "average-income" Upper Lower guy either splurges for an Impala or "sensibly" contents himself with the spartan Biscayne.

While this has been happening to the Low-Priced Three makes the heart of the medium-priced car market has relocated in the "overprivileged" segments of each class. Today, rich blue-collar workers are joining prosperous Lower-Middle Class salesmen and well-to-do Upper Middle Class business owners in buying Pontiacs, Buicks, Oldsmobiles, Chryslers, and even Cadillacs. In fact, what there is left of big-car lust in our society is found at peak strength among the "overprivileged" Upper-Lowers or else among men who have achieved higher status, but grew up as kids in the Upper-Lower class and have not forgotten their wide-eyed envy of the big car owner.

Finally, as you may have guessed by now, the compact car market's heart is to be found in the "underprivileged" segments of each class (here we are speaking of the market for a compact as a first car). The overwhelming majority of Rambler purchasers, Falcon buyers, and foreign economy car owners come from this socio-economic territory. Thus, it is not the really poor who are buying these cheapest, most economical cars—rather it is those who think of themselves as poor relative to their status aspirations

and to their needs for a certain level of clothing, furniture, and housing which they could not afford if they bought a more expensive car.

The market for compacts as second cars is somewhat more complicated in its socio-economic geography, being located in the middle range of the Upper-Middle Class, and the "overprivileged" segment of the Lower-Middle. The "overprivileged" Upper Middle may have one as a third car, but he prefers either a T-Bird, a foreign sports car, a Pontiac convertible, or a beat-up station wagon as his second car, while the "overprivileged" Upper Lower is apt to go for a used standard if he wants a second car.

If marketers and advertisers had assumed that the market for compacts was going to be the lowest-income or lowest-status members of our society, they would have seriously miscalculated in their merchandising and advertising approach. Rambler, for one, did not make this mistake. American Motors advertised its cars as "bringing sense into the auto market" and thus enabled people who bought one to pride themselves on the high-minded rationality they had displayed. Rambler owners, as they drive down the street, are not ashamed that they couldn't afford better—instead, as the company has told them to be, they are proud that they did not yield, like their neighbors, to base emotional desires for a car bloated in size beyond necessity and loaded in gadgetry beyond reason. Compact car owners have their own form of snobbery—what might be called "sensibility snobbery"—with which to content themselves and justify their purchase.

This analysis of the car market is one example of what I mean by the sophisticated application of social class concepts to marketing and advertising problems. There are many products and many brands which, like cars, are more nearly symbols of high status class within class than symbols of higher status per se. A color television set is such a product, or at least it was two years ago when Social Research, Inc., studied its market. At the time color television manufacturers were puzzled because sales were thinly spread throughout the income scale, without any noticeable increase in concentration until an extremely high level was reached. Furthermore, they were unable to see any particular relationship between social class and color set ownership, since about as many Upper-Lower Class people owned them as did Upper-Middles. However, when the two factors of income and class were put together, in the manner described above, it became clear that the color television market was concentrated among high-income or "overprivileged" members of each social class. Other products which bear this complicated relationship to class and income are the more costly brands and larger sizes of home appliances. Fairly expensive recreational equipment like outboard motor boats also tend to be in this category.

In summary, today's market for quality goods and quality brands is not necessarily drawn from what has historically been described as the "Quality Market" of Upper-Middle and Upper Class people, nor even necessarily from the highest income categories. Rather, in many instances, it is drawn

from those people within each social level who have the most discretionary income available for enjoying life's little extras above and beyond the requirements of their class. Every merchandiser and advertiser ought to take a good hard look at what he is selling and ask himself if it bears this particular relationship to the class and income picture. If his product does, and if his brand is one of the more expensive, then he should merchandise it not as if it were just for social climbers or for the upper classes, but rather as part of the Better Life, U.S.A. If, on the other hand, his brand is one of the least expensive, then he is not just selling to the poor, but rather to those in all classes who feel it is only sensible on their part to settle for a brand such as his and save the difference for other things which are more important in their statement of social class aspiration and identity.

Social Class Isn't Always Important

Now, to make the picture complete, it must be pointed out that Social Research, Inc., has found some products in which the income factor is all-important and the social class variable is relevant only to the extent that it is correlated with income. Perhaps the most perfect example of this is the market for air-conditioners in Southwestern cities. There, everybody—except the sickly and the extremely old-fashioned—agree that air conditioning one's home is imperative if summer is to be survived with any degree of comfort. Consequently the expensiveness of a family's air-conditioning equipment—whether centrally installed, or window units to the number of four, three, two or one—is directly correlated with family income. It is not merely a function of discretionary income—as in our example about purchase of medium-priced cars; it is instead almost completely a function of total annual income. If more Upper-Middles than Upper-Lowers are fully air-conditioned it is only because more of them can afford to be; it is not because Upper-Middles as a group are placing higher priority on the air-conditioned existence.

Undoubtedly air conditioners are not alone in being classless—so that one more thing the marketer who uses social class in a truly sophisticated way needs to understand is that there can be occasions when it is an irrelevant variable. Realizing this, he will not become disenchanted with social class when he finds a marketing problem where it does not shed light or where it does not seem pertinent. Of course, he will want to make sure that in advertising such a product there is indeed no need to take class into account. After all, some apparently classless products are properly sold to the market in a segmental approach, appealing first on one ground to one class, then on other grounds to another.

There are other products—and probably air conditioning is one of them and children's play clothes may be another—where this is not necessary. For such products some factor, such as physical comfort (in the one case) or simple durability (in the other), is so basic in the consumer's considera-

tion that all other motivations pale into insignificance beside it. There are even products, like beer, where the democratic approach—that is, a tone of "let's-all-be-good-fellows-together" is exactly right and segmental appeals or snob stories are all wrong.

Another aspect to the sophisticated employment of social class refers back to the point made earlier that social class groups are not always homogeneous. It must be recognized that at times a product's market is formed by "highbrows" from the Upper-Upper Class on down to the Lower-Middle, or by "suburbanites" and suburban-minded people of all classes—in which case the social class variable may confuse a market analysis more than clarify it.

Particularly must merchandisers and market analysts beware of equating "Class" with "Brow"; for they are not synonymous. For example, the Upper-Middle Class and those above it are mainly middlebrow in taste (veering toward an all-American lower-middlebrow level of preferences in television shows and advertising messages) even though the majority of highbrows are found at this level. At times advertisers have made the mistake of assuming that the Upper-Middle Class should be appealed to in a highly sophisticated fashion—and though this is just fine if the product itself is likely to appeal primarily to the Manhattanized type of Upper-Middle, it is not correct if it is expected to sell to the kind of doctor in Dubuque who enjoys a visit to New York every now and then but would never want to live there.

In short, not only must the sophisticated marketer abandon social class in favor of income categories on occasion in his analysis and interpretation of a market, he must recognize that at times both income and class are superseded in importance by divisions of the public into brow levels, by divisions into "high mobiles" and "low mobiles", innovators and non-innovators, inner-directed and other-directed, urbanites, suburbanites, exurbanites, ruralites, and Floridians, or what have you. Usually, of course, fullest understanding of a market will require that social class be linked in with whichever sub-categorization proves pertinent from among those in the catalogue just recited, much as income and class were linked together for fullest comprehension of the car market.

As a final point, let it be noted that the way of life and the goals of people in each social class are in perpetual flux. Neither the "who" of each class nor "what motivates them" are constants to be assumed without continual re-evaluation. Right now, particularly, it is very clear that our society is changing. Every year the collar-color line is breaking down further. More blue-collar workers are becoming Middle Class as well as middle income and Modern, and a white-collar position is less and less a guarantee of Lower-Middle status. As a consequence of this, the Lower-Middle Class is perhaps somewhat more "materialistic" in outlook and slightly less "respectability" conscious than it was 25 years ago, or even 8. Meanwhile, for men

and women to achieve Upper-Middle status without college background is becoming more and more difficult, so that this class is turning much more worldly-wise and well-read, much less conventionally bourgeois than it was in the zenith of Babbitt's day.

In short, the form of our society and its division into social classes is not fixed as of Yankee City in 1931, Jonesville in 1944, Kansas City in 1952, or St. Louis in 1960. We won't be able to say exactly the same things about either the classes themselves or their relationships to specific markets by next year at this time. This fact about the American class structure, that it is not static, that it is in the process of change, is in itself important to merchandisers, to advertisers, to anyone in selling. Among other things, it means that undoubtedly they have played a part in past changes and can play a leading role in directing future changes. But of more direct concern here, to the marketing analyst it means that if he allows his stratification concept to become dated, his use of it will cease as of that moment to be sophisticated.

15/Sales Forecasting : Key to Integrated Management

WILLIAM LAZER

Planning can not be accomplished without first preparing a valid sales forecast. This article points out how sales forecasting can be used as a way to effect an integration in the thinking of management as to what actions should be undertaken.

Business organizations are increasingly adopting the marketing management concept. This philosophy of business operation places greater emphasis on marketing planning and forces business executives to design marketing strategies and program marketing effort to achieve realistic and predetermined objectives.

Sales forecasting can aid management greatly in implementing the marketing management approach. It is a basis for developing co-ordinated and goal-directed systems of marketing action. The sales forecast is one of the vital tools of marketing planning since adequate planning and the effective deployment of marketing resources are based on sales forecasting data.

Sales forecasting promotes and facilitates the proper functioning of the many segments of a firm's total spectrum of business and marketing activities. It influences almost every other prediction of business operations. It is used in establishing budgets and marketing controls. Sales forecasts help determine various limiting conditions for management decisions and programs and are useful tools for co-ordinating the integral aspects of business operations. They provide bases for evaluating the functioning and productivity of various segments of business activity. They can guide marketing and other business action toward the achievement of implicit and explicit objectives.

This article investigates three aspects of sales forecasting as a key to integrated management action: (1) sales forecasting as a component of the marketing planning process, (2) sales forecasting as a focus for integrative planning, and (3) the basic components and procedures of a comprehensive sales forecasting program.

IN MARKETING PLANNING

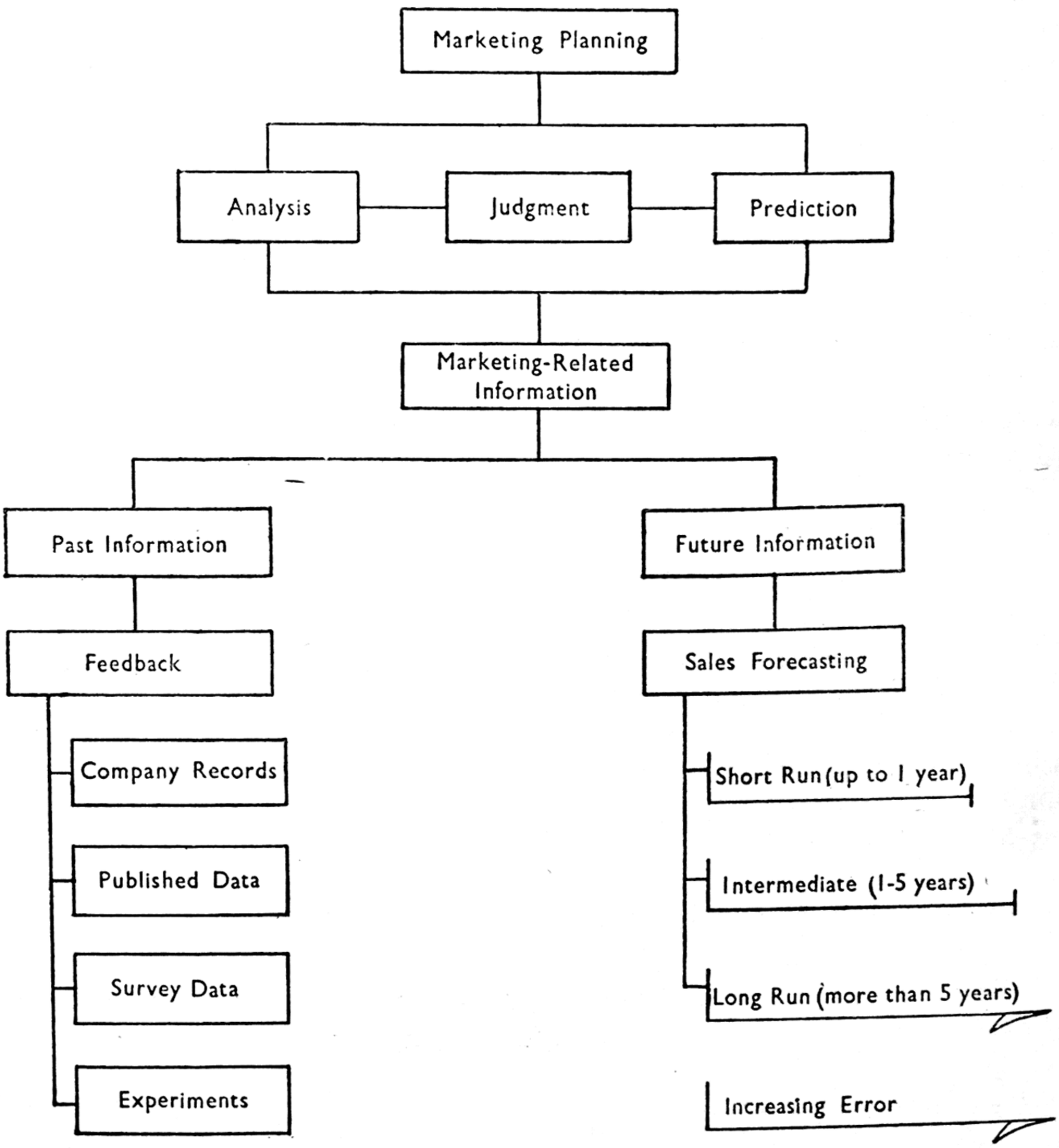
Figure 1 illustrates the stategic role of sales forecasting in gathering information for marketing planning. Effective planning of marketing activities can

SOURCE: From *Business Horizons,* vol. 2, Fall, 1959, pp. 61-67. William Lazer: Associate Professor, Michigan State University.

be achieved only if adequate marketing-related information is available. Marketing planning is concerned with the application of analysis and judgment to available information and the prediction of likely occurrences and trends during some future period.

Marketing-related information can refer to either the past or the future. Information about past activities is often referred to as factual information. Information about the future is anything but factual, and might be characterized as assumptive. Past information is available to every business if it has an adequate record-keeping process. It is also available from other secondary data sources, such as information reported by governmental bureaus, university research bureaus, and trade associations. Past information may also be assembled through the use of various primary data-gathering research tools, such as surveys and experiments.

Figure 1



Future information requires the utilization of forecasting techniques and processes. Nevertheless, it is based on past data and is usually the result of the application of predictive tools to available past information.

Whenever a business gathers future data, varying degrees of error are bound to exist. Regardless of the forecasting techniques used and the degree of sophistication achieved, future conditions will always deviate to some degree from the predictions of the forecasters. Thus, management must expect future information to contain some error.

For effective marketing planning, both types of information must be available for executive use. From a planning and decision-making point of view, future, or nonfactual, information may be more significant than information about the past. This becomes clear if one considers that plans and decisions made today are actually based on executive expectations of what will happen during some future period.

If we consider sales forecasting from the point of view of furnishing marketing-related information, we can state that management gathers information as a result of two complementary processes: feedback and sales forecasting. Feedback consists of relating information about past events and relationships back to management. Through the use of such factual data, management can adjust existing operations and plans and thereby improve the effectiveness of all business action.

Sales forecasting furnishes management with information about what market conditions will probably be like during a future period. Management can then use this informtaion as a basis for planning broad company goals and the strategies to achieve them. Sales forecasting data are used in establishing various types of potential volume and profit targets that become the bases for guiding and controlling operations.

Past and future information, however, are constantly blending. A sales forecast, although it furnishes future information, eventually takes the form of feedback information. Once this happens, a comparison may be made between actual and forecast sales for a specific period. Through such an audit, deviations may be noted and explanations sought for them. This information can, in turn, help refine the assumptions about future sales forecasts and increase the total effectiveness of the forecasting procedure.

The various predictions made may take the form of short-run sales forecasts of less than a year, intermediate forecasts of from one to five years, and long-run forecasts for periods of more than five years. Generally, the longer range the predictions, the greater the forecasting error.

IN INTEGRATIVE PLANNING

Another facet of sales forecasting and its role in marketing planning is its position in the integrative planning process. A sales forecast is a useful tool for integrating the external business environment with the internal forces

of the company. It reduces to workable management dimensions the external business environment over which management has relatively little control. It delimits those constraints that establish the boundaries within which a company must make decisions and operate and translates them into company programs.

Figure 2 portrays sales forecasting as an aid to integrative planning. It indicates the controllable, partially controllable, and noncontrollable factors that management should integrate and take into account in making effective sales forecasts.

The noncontrollable forces determine the broad environmental limits within which the company will operate. These factors include cultural forces, the economic environment, demographic forces, political factors, ethical and social forces, and various international conditions. They cannot be influenced to any degree by company action; at best, they may be recognized and appraised in an intelligent manner.

On Figure 2, broken lines separate the competitive environment and technological factors from other noncontrollable factors. This is to indicate that management action may have some influence over at least these two external forces, which are considered partially controllable factors. However, even though company action can affect competition and technology, the forces *beyond* company control generally have a more significant impact.

As forecasts become longer run in nature, the necessity of recording the existing external climate becomes more imperative since, in the future, it will be these noncontrollable factors that set the over-all constraints and boundaries within which companies survive and grow or fail. Through an evaluation and projection of external forces, management attempts to make realistic assumptions about the future environment. These assumptions about noncontrollable and partially controllable factors are the foundations of sales forecasts, and intelligent sales predictions can be made only by implicitly or explicitly assuming relationships about these factors.

Management should not consider this initial step of determining the external company environment as merely a theoretical exercise that is of little use in practical sales forecasting. The external variables are factors that must be dealt with practically and realistically. Their influence cannot be ignored.

As an example of the importance of external forces, consider the development of a controlled shopping center. Several years may elapse from the initiation of the original idea and the first inquiry concerning site location until the actual opening of the center. Choices must be made from among alternative sites, and considerable negotiations may follow to obtain the property and construct and finance the center. Then there are a host of operating details to attend to, including the actual leasing of stores.

The profitability of the total investment and the sales realized by retail

stores in the shopping center will be affected by external forces. Existing and potential competition, for example, can have great influence on future sales. Demographic and economic forces in the form of population shifts and income trends will shape the retail sales potential of the center. Existing and potential industrial development of the surrounding territory will influence employment and income and will be reflected in marketing opportunity.

Municipal, state, and federal regulations will have an impact on future pricing tactics, on the use of various promotional devices including trading stamps, on store hours, and even on the types of merchandise that may be sold in particular kinds of stores.

Other examples could be presented concerning such industries as wood products, chemicals, mining, petroleum, transportation, the power industry, and communications.

After determining the external business climate for a future period, the sales forecaster must estimate the impact that internal business factors will make on potential markets. This involves an evaluation of those factors over which the company has direct control. They can be adjusted over the longer run by the company itself.

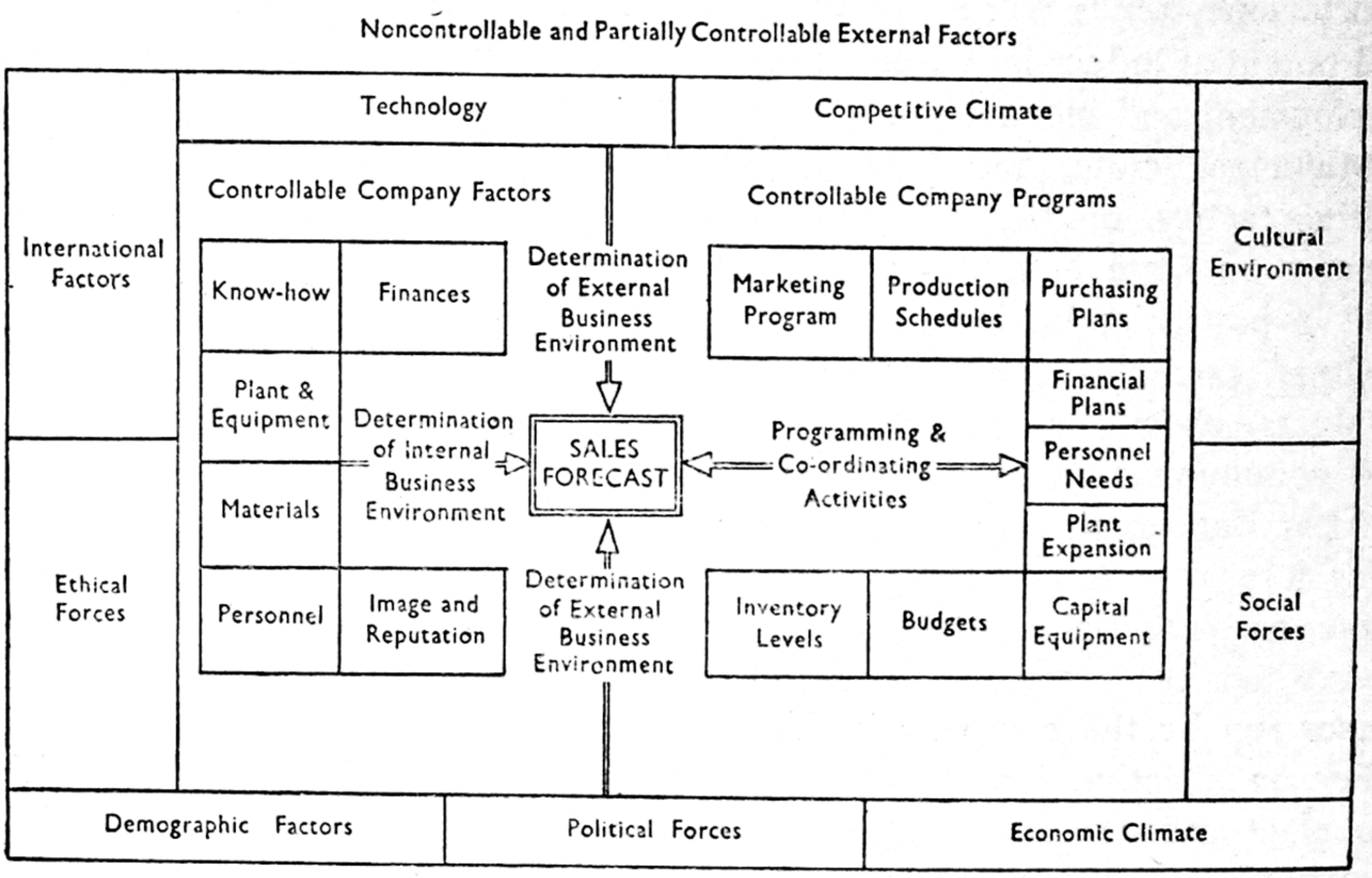
For an effective forecast, the company's know-how, its financial position, the plant capacity, the material resources and personnel available, and the company's reputation, image, and position in the market place must all be evaluated. The market position that a company eventually earns and the sales that it achieves will depend on the impact made by the internal business factors as they are combined into planned management programs carried out within the external business system. A consideration of both climates, external and internal, will give management some guides by which to judge the potential sales opportunity for a company. Through the use of various analyses and by the application of sound judgment, management may map out a company's future sales position.

Thus, sales forecasting helps integrate the management-controllable and management-noncontrollable factors, or the given elements of a total business system within which the company operates and the internal factors of the business itself.

The sales forecast is also a device by means of which management may integrate its objectives, its operating programs, and its targets with potential market opportunity. This can be done by translating the sales forecast into specific profit and sales-volume goals to be realized in a given future period of time. The sales forecast thus becomes a basis for marketing programs, purchasing plans, financial budgets, personnel needs, production schedules, plant and equipment requirements, expansion programs, and perhaps most other aspects of management programming.

The right half of Figure 2 presents sales forecasting as a vehicle for translating the noncontrollable, partially controllable, and internal business environments into specific controllable management programs. The figure

Figure 2



also emphasizes the interrelationships between sales forecasts and company programs.

FORECASTING PROGRAM

Figure 3 outlines the elements of a total sales forecasting program. Four major stages of forecasting, the specific procedures to be followed, and their sequence are presented. These stages are: assembling the forecasting information; evaluating and projecting the data; applying the sales forecast operationally; and auditing the forecast. These four steps are broken down further, and some of the techniques that may be utilized at each stage and the results achieved are described. Figure 3 starts with the noncontrollable business environment and internal business climate and works down through the various predictions about controllable business plans, programs, and objectives.

The first step in a comprehensive sales forecasting program is assembling forecasting information. This involves the recognition of noncontrollable and partially controllable environments through observation and listing of significant external factors. The result is the identification of pertinent

Figure 3

A tatal Sales Forecasting Program

Stages of Process	Techniques	Results
Assembling Information		
Recognize noncontrollable and partially controllable business environment	Observe and list significant external factors	Identification of pertinent cultural, social, economic, political, demographic, competitive, ethical, international, technological forces
Gather information about noncontrollable and partially controllable forces	Investigate outside sources of information	Selection and gathering of data from government, industry, university research, Federal Reserve Board, company records
Gather information about controllable forces	Investigate company records	Selection of relevant company forecasting information
Evaluating and Projecting Data		
Analyze data	Apply analytical tools: time series analysis, least squares, simple correlation, multiple correlation, input-output tables, breakeven charts	Determination of patterns and relationships: lead and lag indicators, cycles, seasonal indexes, trend lines, covariation
Forecast Future sales	Employ extrapolation, constant percentage of increase, end-use analysis, executive opinion, historical analogy, panel of experts, grass-roots techniques, surveys, models, experiments, samples, hunches, judgment, and crystal ball.	Prediction and definition of future dollar sales, unit sales, maximum and minimum ranges
Operationally Applying Forecast		
Refine sales forecast	Break sales down by volume and profit control units: product lines, territories, customers, salesmen	Establishment of specific sales targets

Translate specific targets into operational programs	Establish and co-ordinate plans: marketing program, production schedules, purchasing plans, financial requirements, personnel needs, plant expansion, capital equipment budgets, inventory levels	Identification of controllable business environment

Auditing the Forecast

Review forecast	Compare actual and forecast sales regularly and analyze discrepancies	Determination of reaso for deviations
Modify forecast and forecasting procedures	Re-evaluate projections and adjust forecasting techniques	More accurate sales forecasting

social, cultural, ethical, economic, political, demographic, international, technological, and competitive forces that will influence the projections.

Next, information can be assembled about these noncontrollable factors and an investigation made of such outside sources of information as governments, industries, and universities.

The third step in assembling forecasting information is that of gathering information about the controllable company environment, which involves research into company records. This should result in the selection of relevant company forecasting information.

After forecasting information has been assembled, the data must be evaluated and projected. This activity has two components: analyzing the data and making the actual forecast. To analyze the data, such analytical tools as time series analysis, least squares methods of fitting a straight line, fitting curves, simple and multiple correlation, the use of input-output tables, and breakeven charts may be used. This leads to the determination of patterns and relationships through lead and lag indicators, cycles, seasonal indexes, trend lines, and measures of covariation.

The actual sales projections may be made through extrapolation, a straight percentage increase in sales, executive opinion polls, end-use analysis, historical analogy, a panel of experts, the grass-roots approach, samples and surveys, models, experiments, hunches, judgments, and the oft-used crystal ball. After these projections have been made, the prediction and definition of future dollar and unit sales, and maximum and minimum sales ranges is possible.

Then the forecast must be applied operationally, which involves refining the sales forecast. This is done by breaking it down on the basis of volume and profit control units by product lines, salesmen, customers, territories, and other managerial units. Specific sales targets can thus be established,

and sales forecasting data become the basis for programming marketing, production, purchasing, finance, plant expansion, capital equipment acquisition, personnel, and inventory needs. Controllable business programs have now been really determined.

The last step in a comprehensive sales forecasting program is that of auditing the forecast. This involves reviewing the forecast by comparing actual and forecast sales and analyzing any deviations or discrepancies. The purpose here is to determine the reasons for the deviations. Then future forecasts and even the forecasting techniques can be modified. The end result is more accurate sales forecasts.

The total sales forecasting process is one of refinement. It starts with the more general factors—the external noncontrollable environment and the internal business environment—quantifies them, and finally establishes specific operational goals and targets.

Marketing planning often suffers because management does not develop an effective sales forecasting program. One of the great inducements to ignore or neglect sales forecasting is the difficulty of making predictions. It is a trying task for anyone to try to determine future relationships and their implications for potential sales. It is much more comfortable to turn to the consideration of current operating problems, which are more concrete, are somewhat easier to grasp, and for which some corrective action may be initiated almost immediately.

However, professional marketing management cannot afford to neglect the sales forecasting process. It must become concerned with the development of well co-ordinated, planned, and forceful systems of business action. It must plan the use of company resources so that a firm can establish itself in the market place and grow.

The future marketing climate is likely to be one of keener competition, an exhilarating pace of market change, heavier fixed costs, and an increasing emphasis on innovation. Adequate marketing planning will become the foundation for integrated marketing action. Since one of the basic components of effective marketing planning is sales forecasting, it seems obvious that in the future an increasing amount of time and resources will be spent by companies in developing more adequate sales forecasts.

IV/PLANNING AND DECISION-MAKING IN MARKETING

16/Long-range Planning

PETER F. DRUCKER

Long-range planning is defined as the organized process of making entrepreneurial decisions. Two pertinent questions relating to "long-range planning" are asked —and answered : (1) What it is and what it is not; and (2) the need for and requirements of long-range planning in terms of the "characteristics of the process itself and in terms of its major specific new-knowledge content".

A brief statement of why long-range planning can be considered a major opportunity and challenge for scientific management is also presented.

I

It is easier to define long-range planning by what it is not rather than by what it is. Three things in particular, which it is commonly believed to be it emphatically is not.

1. *First it is not "forecasting".* It is not masterminding the future, in other words. Any attempt to do so is foolish; human beings can neither predict nor control the future.

If anyone still suffers from the delusion that the ability to forecast beyond the shortest time span is given to us, let him look at the headlines in yesterday's paper, and then ask himself which of them he could possibly have predicted ten years ago.

Could he have forecast that by today the Russians would have drawn even with us in the most advanced branches of physical sciences and of engineering?

Could he have forecast that West Germany in complete ruins and chaos then would have become the most conservative country in the world and one of the most productive ones, let alone that it would become very stable politically?

Could he have forecast that the Near East would become a central trouble spot, or would he have had to assume that the oil revenues there would take care of all problems?

This is the way the future always behaves. To try to mastermind it is therefore childish, we can only discredit what we are doing by attempting it. We must start out with the conclusion that forecasting is not respectable and not worthwhile beyond the shortest of periods. *Long-range planning is necessary precisely because we cannot forecast.*

But there is another, and even more compelling reason why forecasting is not long-range planning. Forecasting attempts to find the most probable

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course of events, or at best, a range of probabilities. But the entrepreneurial problem is the unique event that will change the possibilities, for the entrepreneurial universe is not a physical but a value-universe. Indeed the central entrepreneurial contribution and the one which alone is rewarded with a profit, is to bring about the unique event, the *innovation* that changes the probabilities.

Let me give an example—a very elementary one which has nothing to do with innovation but which illustrates the importance of the improbable even for purely adaptive business-behavior.

A large coffee distributor has for many years struggled with the problem of the location and capacity of its processing plants throughout the country. It had long been known that coffee prices were as important a factor in this, as location of market, volume, or transportation and delivery strategy. Now if we can forecast anything, it is single-commodity prices; and the price forecasts of the company economists have been remarkably accurate. Yet the decisions on plant location and capacity based on these forecasts have again and again proven costly blunders. Extreme pricing events, the probability of which at any one time was exceedingly low, had, even if they lasted only for a week at a time, impact on the economics of the system that were vastly greater than that of the accurately forecast "average". Forecasting, in other words, obscured economic reality. What was needed (as the Theory of Games could have proven) was to look at the extreme possibilities, and to ask, "which of these can we not afford to disregard"?

The only thing atypical in this example is that it is so simple. Usually things are quite a bit more complex. But despite its (deceptive) simplicity it shows why forecasting is not an adequate basis even for purely adaptive behavior, let alone for the entrepreneurial decisions of long-range planning.

2. The next thing to be said about what long-range planning is not, is that it does not deal with future decisions. It deals with the *futurity of present decisions.*

Decisions exist only in the present. The question that faces the long-range planner is not what we should do tomorrow. It is what do we have to do today to be ready for an uncertain tomorrow. The question is not what will happen in the future. It is: what futurity do we have to factor into our present thinking and doing, what time spans do we have to consider, and how do we converge them to a simultaneous decision in the present?

Decision-making is essentially a time machine which synchronizes into one present a great number of divergent time spans. This is, I think, something which we are only learning now. Our approach today still tends toward the making of plans for something we will decide to do in the future. This may be a very entertaining exercise, but it is a futile one. Again, long-range planning is necessary because we can make decisions only *in* the present; the rest are pious intentions. And yet we cannot make decisions

for the present alone; the most expedient, most opportunist decision—let alone the decision not to decide—may commit us on a long-range basis, if not permanently and irrevocably.

3. Finally, the most common misconception of all, *long-range planning is not an attempt to eliminate risk.* It is not even an attempt to minimize risk. Indeed any such attempt can only lead to irrational and unlimited risk and to certain disaster.

The central fact about economic activity is that, by definition, it commits present resources to future and therefore highly uncertain expectations. To take risk is therefore the essence of economic activity. Indeed one of the most rigorous theorems of economics (Boehm-Bawerk's Law) proves that existing means of production will yield greater economic performance only through greater uncertainty, that is, through greater risk.

But while it is futile to try to eliminate risk, and questionable to try to minimize it, it is essential that the risks taken be the *right risks.* The end result of successful long-range planning must be a capacity to take a greater risk; for this is the only way to improve *entrepreneurial* performance. To do this, however, we must know and understand the risks we take. We must be able to rationally choose among risk-taking courses of action rather than plunge into uncertainty on the basis of hunch, hearsay or experience (no matter how meticulously quantified).

Now I think we can attempt to define what long-range planning is. It is the continuous process of making *present entrepreneurial* (*risk taking*) *decisions* systematically and with the best possible knowledge of their futurity, organizing systematically *the efforts* needed to carry out these decisions, and measuring the results of these decisions against the expectations through *organized, systematic feed-back.*

II

"This is all very well", many experienced businessmen might say (and do say). "But why make a production out of it? Isn't this what the entrepreneur has been doing all along, and doing quite successfully? Why then should it need all this elaborate mumbo-jumbo? Why should it be an organized, perhaps even a separate activity? Why in other words, should we even talk about 'long-range planning', let alone do it?"

It is perfectly true that there is nothing very new to entrepreneurial decisions. They have been made as long as we have had entrepreneurs. There is nothing new in here regarding the essential of economic activity. It has always been the commitment of present resources to future expectations; and for the last three hundred years this has been done in contemplation of change. (This was not true earlier. Earlier economic activity was based on the assumption that there would be no change, which assumption was institutionally guarded and defended. Altogether up to the seventeenth century it was the purpose of all human institutions to prevent change.

The business enterprise is a significant and rather amazing novelty in that it is the first human institution having the purpose of bringing about change).

But there are several things which are new; and they have created the need for the organized, systematic, and above all, specific process that we call "long-range planning".[1]

1. The time span of entrepreneurial and managerial decisions has been lengthening so fast and so much as to make necessary systematic exploration of the uncertainty and risk of decisions.

In 1888 or thereabouts, an old and perhaps apocryphical story goes, the great Thomas Edison, already a world figure, went to one of the big banks in New York for a loan on something he was working on. He had plenty of collateral and he was a great man; so the vice-presidents all bowed and said "Certainly, Mr. Edison, how much do you need?" But one of them, out of idle curiosity asked, "Tell me, Mr. Edison, how long will it be before you have this new product?" Edison looked him in the eye and said, "Son, judging from past experience, it will be about eighteen months before I even know whether I'll have a product or not." Whereupon the vice-presidents collapsed in a body, and, despite the collateral, turned down the loan application. The man was obviously mad; eighteen months of uncertainty was surely not a risk a sane businessman would take!

Today practically every manager takes ten or twenty year risks without wincing. He takes them in product development, in research, in market development, in the development of a sales organization, and in almost anything. This lengthening of the time span of commitments is one of the most significant features of our age. It underlies our economic advances. But while quantitative in itself, it has changed the qualitative character of entrepreneurial decisions. It has, so to speak, converted time from being a dimension in which business decisions are being made into an essential element of the decisions themselves.

2. Another new feature is the speed and risk of innovation. To define what we mean by this term would go far beyond the scope of this paper.[2]

But we do not need to know more than that industrial research expenditures (that is, business expenditures aimed at innovating primarily peacetime products and processes) have increased in this country from less than $100 million in 1928 to $7 or 8 billion in 1958. Clearly, a technologically slow-moving, if not essentially stable economy has become one of violent technological flux, rapid obsolescence and great uncertainty.

[1] "Long-range planning" is not a term I like or would have picked myself. It is a misnomer—as are so many of our terms in economics and management, such as "capitalism", "automation", "operations research", "industrial engineering", or "depreciation". But it is too late to do anything about the terms; it has become common usage.

[2] For a discussion see my new book *The Landmarks of Tomorrow* (Harper and Brothers, New York, 1958).

3. Then there is the growing complexity both of the business enterprise internally, and of the economy and society in which it exists. There is the growing specialization of work which creates increasing need for common vision, common understanding, and common language, without which top management decisions, however right, will never become effective action.

4. Finally—a subtle, but perhaps the most important point—the typical businessman's concept of the basis of entrepreneurial decision is, after all, a misconception.

Most businessmen still believe that these decisions are made by "top management". Indeed practically all text books lay down the dictum that "basic policy decisions" are the "prerogative of top management". At most, top management "delegates" certain decisions.

But this reflects yesterday's rather than today's reality, let alone that of tomorrow. It is perfectly true that top management must have the final say, the final responsibility. But the business enterprise of today is no longer an organization in which there are a handful of "bosses" at the top who make all the decisions while the "workers" carry out orders. It is primarily an organization [3] of professionals of highly specialized, knowledge exercising autonomous, responsible judgment. And every one of them—whether manager or individual expert contributor—constantly makes truly entrepreneurial decisions, that is, decisions which affect the economic characteristics and risks of the entire enterprise. He makes them not by "delegation from above" but inevitably in the performance of his own job and work.

For this organization to be functioning, two things are needed: knowledge by the entire organization what the direction, the goals, the expectations are; and knowledge by top management of what the decisions, commitments, and efforts of the people in the organization are. The needed focus—one might call it a *model of the relevants in internal and external environment*—only a "long-range plan" can provide.

One way to summarize what is new and different in the process of entrepreneurial decision-making is in terms of information. The amount, diversity and ambiguity of the information that is beating in on the decision-maker have all been increasing so much that the built-in experience reaction that a good manager has cannot handle it. He breaks down; and his breakdown will take either of the two forms known to any experimental psychologists. One is withdrawal from reality, i.e., "I know what I know and I only go by it; the rest is quite irrelevant and I won't even look at it". Or there is a feeling that the universe has become completely irrational so that one decision is as good as the other, resulting in paralysis. We see both in executives who have to make decisions today. Neither is likely to result in rational or in successful decisions.

[3] For a discussion of this "new organization" see again my *The Landmarks of Tomorrow* mentioned above.

There is something else managers and management scientists might learn from the psychologists. Organization of information is often more important to the ability to perceive and act than analysis and understanding of the information. I recall one experience with the organization of research-planning in a pharmaceutical company. The attempt to analyze the research decisions—even to define alternatives of decisions—was a dismal failure. In the attempt, however, the decisions were classified to the point where the research people could know what kind of a decision was possible at what stage. They still did not know what factors should or should not be considered in a given decision nor what its risks were. They could not explain why they made this decision rather than another one, nor spell out what they expected. But the mere organization of this information enabled them again to apply their experience and to "play hunches"—with measurable and very significant improvement in the performance of the entire research group.

"Long-range planning" is more than organization and analysis of information; it is a decision-making process. But even the information job cannot be done except as part of an organized planning effort—otherwise there is no way of determining which information is relevant.

III

What then are the requirements of long-range planning? We cannot satisfy all of them as yet with any degree of competence; but we can specify them.

Indeed, we can—and should—give two sets of specifications: One in terms of the characteristics of the process itself; another in terms of its major and specific new-knowledge content.

1. Risk-taking entrepreneurial decisions, no matter whether made rationally or by tea-leaf reading, always embody the same eight elements:

a. Objectives. This is, admittedly, an elusive term, perhaps even a metaphysical one. It may be as difficult for Management Science to define "objectives" as it is for biology to define "life". Yet, we will be as unable to do without "objectives" as the biologists are unable to do without "life". Any entrepreneurial decision, let alone the integrated decision-system we call a "long-range plan", has objectives, consciously or not.

b. Assumptions. These are what is believed by the people who make and carry out decisions to be "real" in the internal and external universe of the business.

c. Expectations. The future events or results considered likely or attainable.

These three elements can be said to *define the decision.*

d. Alternative courses of action. There never is—indeed, in a true uncertainty situation there never can be—"one right decision". There cannot even be "one best decision". There are always "wrong decisions", that is, decisions inadequate to the objectives, incompatible with the assumptions, or grossly improbable in the light of the expectations. But once these have

been eliminated, there will still be alternatives left—each a different configuration of objectives, assumptions and expectations, each with its own risks and its own ratio between risks and rewards, each with its own impact, its specific efforts and its own results. Every decision is thus a value-judgment—it is not the "facts that decide"; people have to choose between imperfect alternatives on the basis of uncertain knowledge and fragmentary understanding.

Two alternatives deserve special mention, if only because they have to be considered in almost every case. One is the alternative of no action (which is, of course, what postponing a decision often amounts to); the other is the very important choice between adaptive and innovating action —each having risks that differ greatly in character though not necessarily in magnitude.

e. The next element in the decision-making process is the *decision itself.*

f. But there is no such thing as one isolated decision; every decision is, of necessity, part of a *decision-structure.*

Every financial man knows, for instance, that the original capital appropriation on a new investment implies a commitment to future and usually larger-capital appropriations which, however, are almost never as much as mentioned in the proposal submitted. Few of them seem to realize, however, that this implies not only a positive commitment but also, by mortgaging future capital resources, limits future freedom of action. The structuring impact of a decision is even greater in respect to allocations of scarce manpower, such as research people.

g. A decision is only pious intention unless it leads to action. Every decision, therefore, has an *impact stage.*

This impact always follows Newton's Second Law, so to speak; it consists of action and reaction. It requires effort. But it also dislocates. There is, therefore, always the question: what effort is required, by whom, and where? What must people know, what must they do and what must they achieve? But there is also the question—generally neglected—what does this decision do to other areas? Where does it shift the burden, the weaknesses, and the stress points; and what impact does it have on the outside; in the market, in the supply structure, in the community, and so on?

h. And, finally, there are *results.*

Each of these elements of the process deserves an entire book by itself. But I think I have said enough to show that both, the process itself and each element in it, are *rational,* no matter how irrational and arbitrary they may appear. Both the process and all its elements can therefore be defined, can be studied and can be analyzed. And both can be improved through systematic and organized work. In particular, as in all rational processes, the entire process is improved and strengthened as we define, clarify and analyze each of its constituent elements.

2. We can also, as said above, describe long-range planning in terms of its specific new-knowledge content.

Among the areas where such new knowledge is particularly cogent, might be mentioned:

a. The time dimensions of planning. To say "long-range" or "short-range" planning implies that a given time span defines the planning; and this is actually how businesses look at it when they speak of a "five-year plan" or a "ten-year plan". But the essence of planning is to make present decisions with knowledge of their futurity. It is the futurity that determines the time span, and not vice versa.

Strictly speaking, "short-range" and "long-range" do not describe time spans but stages in every decision. "Short-range" is the stage before the decision has become fully effective, the stage during which it is only "costs" and not yet "results". The "short-range" of a decision to build a steel mill are the five years or so until the mill is in production. And the "long-range" of any decision is the period of expected performance needed to make the decision a successful one—the twenty or more years above break-even point operations in the case of the steel mill, for instance.

There are limitations on futurity. In business decisions the most precise mathematical statement is often that of my eighth grade teacher that parallels are two lines which do not meet this side of the school yard. Certainly, in the expectations and anticipations of a business the old rule of statistics usually applies that anything beyond twenty years equals infinity; and since expectations more than twenty years hence have normally a present value of zero, they should receive normally only a minimal allocation of present efforts and resources.

Yet it is also true that, if future results require a long gestation period, they will be obtained only if initiated early enough. Hence, long-range planning requires knowledge of futurity: what do we have to do today if we want to be some place in the future? What will not get done at all if we do not commit resources to it today?

If we know that it takes ninety-nine years to grow Douglas firs in the Northwest to pulping size, planting seedlings today is the only way we can provide for pulp supply in ninety-nine years. Some one may well develop some speeding-up hormone; but we cannot bank on it if we are in the paper industry. It is quite conceivable, may indeed be highly probable, that we will use trees primarily as a source of chemicals long before these trees grow to maturity. We may even get the bulk of paper supply thirty years hence from less precious, less highly structured sources of cellulose than a tree, which is the most advanced chemical factory in the plant kingdom. This simply means, however, that our forests may put us into the chemical industry some time within the next thirty years; and we had better learn now something about chemistry. If our paper plants depend on Douglas fir,

our planning cannot confine itself to twenty years, but must consider ninety-nine years. For we must be able to say whether we have to plant trees today, or whether we can postpone this expensive job.

But on other decisions even five years would be absurdly long. If our business is buying up distress merchandise and selling it at auction, then next week's clearance sale is "long-range future"; and anything beyond is largely irrelevant to us.

It is the nature of the business and the nature of the decision which determine the time-spans of planning.

Yet the time spans are not static or "given". This time decision itself is the first and a highly important risk-taking decision in the planning process. It largely determines the allocation of resources and efforts. It largely determines the risks taken (and one cannot repeat too often that to postpone a decision is in itself a risk-taking and often irrevocable decision). Indeed, the time decision largely determines the character and nature of the business.

b. Decision structure and configuration. The problem of the time dimension is closely tied in with that of decision structure.

Underlying the whole concept of long-range planning are two single insights. We need an integrated decision structure for the business as a whole. There are really no isolated decisions on a product, or on markets, or on people. Each major risk-taking decision has impact throughout the whole; and no decision is isolated in time. Every decision is a move in a chess game, except that the rules of enterprise are by no means as clearly defined. There is no finite "board" and the pieces are neither as neatly distinguished nor as few in number. Every move opens some future opportunities for decision, and forecloses others. Every move, therefore, commits positively and negatively.

Let me illustrate these insights with a simple example, that of a major steel company today.

I posit that it is reasonably clear to any student of technology (not of steel technology but of technology in general) that steelmaking is on the threshold of major technological change. *What* they are perhaps the steelmaker knows, but *that* they are I think any study of the pattern, rhythm, and I would say morphology of technological development, might indicate. A logical—rather than metallurgical—analysis of the process would even indicate *where* the changes are likely to occur. At the same time, the steel company faces the need of building new capacity if it wants to keep its share of the market, assuming that steel consumption will continue to increase. A decision to build a plant today, when there is nothing but the old technology available, means in effect that for fifteen to twenty years the company cannot go into the new technology except at prohibitive cost. It is very unlikely, looking at the technological pattern, that these changes will be satisfied by minor modifications in existing facilities; they are likely to require new facilities to a large extent. By building today the company

closes certain opportunities to itself, or at least it very greatly raises the future entrance price. At the same time, by making the decision to postpone building, it may foreclose other opportunities such as market position, perhaps irrevocably. Management therefore has to understand—without perhaps too much detail—the location of this decision in the continuing process of entrepreneurial decision.

At the same time, entrepreneurial decisions must be fundamentally expedient decisions. It is not only impossible to know all the contingent effects of a decision, even for the shortest time period ahead. The very attempt to know them would lead to complete paralysis.

But the determination what should be considered and what should be ignored, is in itself a difficult and consequential decision. We need knowledge to make it—I might say that we need a theory of entrepreneurial inference.

c. The characteristics of risks. It is not only magnitude of risk that we need to be able to appraise in entrepreneurial decisions. It is above all the character of the risk. Is it, for instance, the kind of risk we can afford to take, or the kind of risk we cannot afford to take? Or is it that rare but singularly important risk, the risk we cannot afford not to take—sometimes regardless of the odds?

The best General Electric scientists, we are told, advised their management in 1945 that it would be at least forty years before nuclear-energy could be used to produce electric power commercially. Yet General Electric—rightly—decided that it had to get into the atomic energy field. It could not afford not to take the risk as long as there was the remotest possibility that atomic energy would, after all, become a feasible source of electric power.

We know from experience that the risk we cannot afford not to take, is like a "high-low" poker game. A middle hand will inevitably lose out. But we do not know why this is so. And the other, and much more common kinds of risk we do not really understand at all.

d. Finally, there is the area of measurements. I do not have to explain to readers of *Management Science* why measurements are needed in management, and especially for the organized entrepreneurial decisions we call "long-range planning".

But it should be said that in human institutions, such as a business enterprise, measurements, strictly speaking, do not and cannot exist. It is the definition of a measurement that it be impersonal and objective, that is, extraneous to the event measured. A child's growth is not dependent on the yardstick or influenced by being recorded. But any measurement in a business enterprise determines action—both on the part of the measurer and the measured—and thereby directs, limits and causes behavior and performance of the enterprise. Measurement in the enterprise is always motivation, that is, moral force, as much as it is *ratio cognoscendi.*

In addition, in long-range planning we do not deal with observable events. We deal with future events, that is with expectations. And expectations,

being incapable of being observed, are never "facts" and cannot be measured.

Measurements, in long-range planning, thus present very real problems, especially conceptual ones. Yet precisely because what we measure and how we measure determines what will be considered relevant, and determines thereby not just what we see, but what we—and others—do, measurements are all-important in the planning process. Above all, unless we build expectations into the planning decision in such a way that we can very early realize whether they are actually fulfilled or not—including a fair understanding of what are significant deviations both in time and in scale —we cannot plan; and we have no feedback, no way of self-control in management.

We obviously also need for long-range planning *managerial* knowledge —the knowledge with respect to the operations of a business. We need such knowledge as that of the resources available, especially the human resources; their capacities and their limitations. We need to know how to "translate" from business needs, business results and business decisions into functional capacity and specialized effort. There is, after all, no functional decision, there is not even functional data, just as there is no functional profit, no functional loss, no functional investment, no functional risk, no functional customer, no functional product and no functional image of a company. There is only a unified company product, risk, investment and so on, hence only company performance and company results. Yet at the same time the work obviously has to be done by people each of whom has to be specialized. Hence for a decision to be possible, we must be able to integrate divergent individual knowledges and capacities into one organization potential; and for a decision to be effective, we must be able to translate it into a diversity of individual and expert, yet focused efforts.

There are also big problems of knowledge in the entrepreneurial task that I have not mentioned—the problems of growth and change, for instance, or those of the moral values of a society and their meaning to business. But these are problems that exist for many areas and disciplines other than management.

And in this paper I have confined myself intentionally to knowledge that is specific to the process of long-range planning. Even so I have barely mentioned the main areas. But I think I have said enough to substantiate three conclusions:

(*a*) Here are areas of genuine knowledge, not just areas in which we need dates. What we need above all, are basic theory and conceptual thinking.

(*b*) The knowledge we need is new knowledge. It is not to be found in the traditional disciplines of business such as accounting or economics. It is also not available, by and large, in the physical or life sciences. From the existing disciplines we can get a great deal of help, of course, especially in tools and techniques. And we need all we can get. But the knowledge we need is distinct and specific. It pertains not to the physical, the biological

or the psychological universe, though it partakes of them all. It pertains to the specific institution, the enterprise, which is a social institution existing in contemplation of human values. What is "knowledge" in respect to this institution let alone what is "scientific" must therefore always be determined by reference to the nature, function and purposes of this specific (and very peculiar) institution.

(*c*) It is not within the decision of the entrepreneur whether he wants to make risk-taking decisions with long futurity; he makes them by definition. All that is within his power is to decide whether he wants to make them responsibly or irresponsibly, with a rational chance of effectiveness and success, or as blind gamble against all odds. And both, because the process is essentially a rational process, and because the effectiveness of the entrepreneurial decisions depends on the understanding and voluntary efforts of others, the process will be the more responsible and the more likely to be effective, the more it is a rational, organized process based on knowledge.

IV

Long-range planning is risk-taking decision making. As such it is the responsibility of the policy-maker, whether we call him entrepreneur or manager. To do the job rationally and systematically does not change this. Long-range planning does not "substitute facts for judgment", does not "substitute science for the manager". It does not even lessen the importance and role of managerial ability, courage, experience, intuition, or even hunch —just as scientific biology and systematic medicine have not lessened the importance of these qualities in the individual physician. On the contrary, the systematic organization of the planning job and the supply of knowledge to it, should make more effective individual managerial qualities of personality and vision.

But at the same time long-range planning offers major opportunity and major challenge to Management Science and to the Management Scientist.[4] We need systematic study of the process itself and of every one of its elements. We need systematic work in a number of big areas of new knowledge—at least we need to know enough to organize our ignorance.

At the same time, long-range planning is the crucial area; it deals with the decisions which, in the last analysis, determine the character and the survival of the enterprise.

So far, it must be said, Management Science has not made much contribution to long-range planning. Sometimes one wonders whether those who call themselves "Management Scientists" are even aware of the risk-taking character of economic activity and of the resultant entrepre-

[4] I would like to say here that I do not believe that the world is divided into "managers" and "management scientists". One man may well be both. Certainly, management scientists must understand the work and job of the manager, and vice versa. But conceptually and as a kind of work, the two are distinct.

neurial job of long-range planning. Yet, in the long run, Management Science and Management Scientists may well, and justly, be judged by their ability to supply the knowledge and thinking needed to make long-range planning possible, simple, and effective.

17/Principles of Market Planning

This article discusses what a marketing plan is and how such a plan can best be prepared. It covers in some detail the successive stages involved in the development of an effective plan.

The development of marketing plans and programs is rapidly becoming a staff function in modern business. Market research is already well established as a staff activity. In this case staff personnel typically collects facts and draws general findings which are useful to marketing executives in devising plans or determining policies.

The next stage is that in which sales forecasts and budgets for marketing expenditures are worked out at the staff level, subject to executive approval. The final stage is that in which staff units undertake to devise marketing strategies and recommend policy limits within which these strategies should operate.

In only a few leading companies has staff participation and planning been carried to that extent. This is in marked contrast to military operations in which planning has long been recognized as a staff function. A top military command reserves to itself chiefly the function of decision which commonly takes the form of choice among alternative plans developed at the staff level. The requirements of decision are equally exacting in large enterprise, so that an increasing pressure for planning at the staff level can be anticipated.

There is reason to suspect that one factor which is holding back the development of staff planning is the lack of recognized principles of market planning. The executive can delegate market research to a staff unit because he has acquired confidence in the established techniques of research. Given these techniques, he has confidence that any two competent market analysts will come out to very much the same place as to the facts of a marketing situation.

Planning has not been reduced to scientific techniques to the same extent and perhaps can never be wholly objective. Planning is to some extent an act of the creative imagination and is necessarily colored to some degree by the personality and experience of the planner. It is not too much to hope, however, that principles of planning can be formulated which will reduce the variability in the results arising from the personal element.

This article is a first attempt to suggest a line of development for these principles of market planning. First of all, it is essential to define some of the elements with which planning deals and then to discuss the successive

SOURCE: From *Cost and Profit Outlook*, June, 1952.

stages in planning for which guiding principles are needed. (As a first approach to a definition of a market plan, it might be described as an overall program governing a series of business transactions.

The transaction is the basic unit of marketing activity involving an exchange between buyer and seller. Most transactions should be classified as routine transactions because they consist of an exchange of goods and services in accordance with a repetitive pattern.

A smaller number of transactions may be described as strategic transactions. The impact of a strategic transaction extends over a longer period of time or over a broader segment of marketing activities. It may generally be regarded not as a simple exchange of goods or services but as an exchange of commitments governing the future movement of goods and services. Such commitments sometimes take the form of long-term contracts against which individual deliveries are made but often are only general understandings remaining in effect as long as the arrangement is mutually agreeable.

Sometimes it is important to distinguish between a plan and a procedure. A procedure may be defined as a prescribed method for handling routine transactions. The problem with respect to a procedure is generally limited to one of relative efficiency so that the establishment of procedures does not normally raise the policy issues which are involved in broader types of planning.

A more comprehensive definition of a plan is appropriate at this point. (A market plan may be defined as a program of action which specifies marketing goals and describes the means of attaining them in terms of time, space, and effort. From the viewpoint of the planner, policy may be regarded as setting up the framework within which planning takes place. More precisely, policy may be defined as a statement of the limits within which plans and procedures must operate or of the general direction which they should follow toward the attainment of marketing goals.

The first three stages in planning should determine the general type of plan, the scale of the effort and the design of the plan as visualized in full operation. Consideration must then be given to procedures to be followed in launching the plan and the critical review of the plan in relation to conditions which may affect its success. All five of these stages will be described in the following sections.

FACTS, POLICIES, AND PLANS

The occasion for planning is usually presented by a specific marketing problem. A problem arises from uncertainty concerning the outcome of plans and procedures now in effect. Modern marketing management is inclined to meet its major problems and make its plans on the basis of analysis rather than being guided by experience and insight alone.

One way to conceive of this analysis is as a re-examination of the operating assumptions by which the executive has been guided. In day-to-day decisions he necessarily makes some assumptions about the character of his market and the effectiveness of various types of effort applied to the market.

Before undertaking to improve on existing plans and procedures, it is essential that the factual basis of these operating assumptions should be reviewed. The marketing executive may be visualized as operating on the basis of a sort of map. There are boundaries or limits marking off the class of consumers he is trying to reach or the trade channels through which he is willing to sell. There are routes over which he can move in attaining his objectives which experience or investigation has indicated are better than other routes. This map may have to be brought up to date by a validation or a revision of operating assumptions before a new plan of action can be devised.

At this stage of planning, the general type of plan should be determined. Often a list of three or four major alternatives can be set up for consideration. The selection among these alternatives can be tested against the marketing facts and the statement of marketing policies. At this stage, the planner should be able to set down a brief description of the type of program that is visualized which will serve as the nucleus for the more detailed plan which is to be developed later.

Fundamental decisions as to type of marketing plan may include the issue of starting on a regional basis or beginning national distribution immediately, selling directly to retailers or distributing through wholesalers, and bringing the product out at a high price with the possibility of reducing it later as compared with pricing it for the mass market immediately. A recent market-planning assignment involved a choice among several approaches to product promotion. The three alternatives considered were those of dramatizing the product, dramatizing the company, and dramatizing the user of the product. In this instance, the marketing facts and the sales policies of the company pointed unmistakably to the third alternative.

THE SCALE OF MARKETING ACTION

In determining the scale of a marketing operation the aim of management is the adjustment of effort to opportunity. This process of adjustment is complicated by the fact that effort is expended through a plan or program in which the various parts must in turn be proportioned to each other. Usually it is not practical to deal with the problem in terms of a simple continuous curve relating effort to opportunity.

It is possible, however, to set up limits as to scale and then attempt to determine the optimum scale of operation within these limits. The top

limit might be called "the maximum effort plan". The starting point is an assumption as to the maximum amount of resources which might be available for putting the plan into effect. A rough proportioning of these total resources can then be undertaken, allocating time and money to each of the elements of the marketing operation.

The lower limit may be established by what might be called "the minimum result plan". The starting point in this case would be a statement of a minimum goal to be achieved during the first year or some other operating period. With this target in mind an attempt should then be made to list the minimum essentials and to estimate the cost of such a minimum program. Conceivably it will turn out that the maximum effort available is not sufficient to achieve the minimum result that is considered worth-while.

It may then be necessary to abandon the project or to reconsider the marketing goals in order to make it practical to proceed. For example, a decision might be reached to go ahead in a single region or sales territory rather than undertaking national distribution from the start. Generally speaking, there will be some range for planning decisions between the point of maximum effort and the point of minimum result. With these limits as guides, it should be easier to identify an optimum scale of operation which in the judgment of the planner represents the most effective application of effort to opportunity.

Decision as to the scale of operation is a major determinant in the design of detailed operating procedures. A procedure that is efficient at one level of operation may be quite inappropriate at a larger or smaller scale. Thus, determination of the optimum scale may lead directly to decisions as to whether brokers should be employed, whether salesmen should be specialized by products or solely by territories, and what should be the initial scope and character of the advertising program. Consideration of procedures may in turn lead to a revised judgment concerning scale of operations. It may be obviously uneconomic to set up facilities for a restricted scale of operation if prospective growth will shortly render these facilities obsolete.

DESIGNING A MARKETING OPERATION

Having decided on the general type or scale of operation, the next step is to design its structure in greater detail. A first problem is to determine the proper sequence of steps by which a product will move from its producer or sponsor to the ultimate consumer. The planner may start off by listing all the steps in what appears to him to be the natural order. This listing should then be reviewed to determine whether any of the steps are unnecessary or whether the sequence might be changed.

A previous issue of the *Cost and Profit Outlook* dealt with what was called "the principle of postponement". According to this principle, any change in the form of the product should be delayed to the last possible point

in the distribution process and any change in its location should be delayed until the last possible point in time. The principle of postponement is nothing more than a convenient device for testing each step for its position in the sequence in order to arrive at the most favorable arrangement of steps.

In seeking to push a step as far ahead as possible it sometimes becomes apparent that it can be eliminated altogether. There are other steps which exhibit strong resistance to postponement and, thus, establish their right to a position at or near the beginning of the sequence. Having established the sequence of steps, the next concern is with structural balance among them. That is to say that each step should be in scale with those which precede or follow it. No step should be allowed to become a bottleneck on the one hand or on the other a bulge in which resources are wasted needlessly.

Contingencies with respect to breakdown in the process as well as provision for normal operation necessarily enter into this phase of planning. The next phase is the coordination of steps or processes which must proceed simultaneously or along parallel lines. Weaknesses in market planning are constantly showing up because of the failure to coordinate schedules. Goods are advertised to the consumer before they have been stocked in retail stores, point of display materials arrive too late for planned sales events, and inventories pile up during the course of changeover in models or merchandising methods.

THE INSTALLATION OF A MARKETING OPERATION

Too many times the planner visualizes a marketing plan in full operation but fails to work out the steps by which that point is to be reached. No planning job is complete unless it gives consideration to how the plan is to be launched or how the new operation or procedure is to be installed.

First of all is the question of timing. Whether it is opportune to launch a new plan may depend on the season, the business cycle or a variety of factors in the current competitive situation. On purely strategic grounds, too much delay may put competitors on notice and dissipate much of the impact of a plan. Launching the plan too soon may mean slighting some of the conditions that are necessary to success. The most important single condition is that of making sure of adequate cooperation from all factors who will be involved in the plan. A marketing plan cannot be carried out by the sales executive himself, but will require cooperation from a number of branch offices or other units in his own organization and from various types of distributors and dealers.

Adequate incentives for cooperation should form a part of the marketing plan itself but the sequence of steps by which cooperation will be obtained is a fundamental consideration in launching the plan. Many marketing operations are wrecked at this point by unwise concessions or commitments which are made in an attempt to gain cooperation from key factors. These

concessions limit the freedom of executive action, so that development thereafter is inevitably cramped and restricted. This hazard can be minimized by regarding the launching of the plan as a separate problem and determining in advance just how far to go in soliciting cooperation.

CRITICAL REVIEW OF A PROPOSED PLAN

The planning steps which have been described so far proceed on the basis of principles of design and internal consistency relating the plan to the goals to be achieved. The final step should be that of criticizing and reviewing the plan in terms of other conditions which may affect its success.

First of all, there are the secondary consequences of marketing operations. A plan may have a number of effects in addition to those that are intended. The proposed operation may be a very effective means of approaching a given market but may alienate other customers. It may stimulate counteraction on the part of competitors to an extent that largely nullifies its benefits. A partial plan intended to change one aspect of a marketing operation may set off a chain reaction which requires a whole series of changes.

A related and yet separate set of considerations pertain to the evaluation of market risks. A plan calling for expenditure over a period of years in the marketing of a product is subject to the hazard that the product may become obsolete during that time. A better product may be under development in the company's own laboratories or in those of competitors. It is highly desirable at the time a new product is introduced to make some judgment concerning the pressure for lower prices which will accumulate as competition enters the field. Not only the price at which the company can produce the product today, but the price at which it might be willing to sell it five years ahead, may be essential to a marketing judgment.

Finally, there is the consideration of whether a plan is appropriate to the capacities of the marketing organization for which it is prepared. It might be a good plan in the abstract but require too much in the way of adjustment to a new type of market or changed marketing methods. As a final word of caution, it should be pointed out that the stages of planning cannot be separated as sharply in practice as they have been in exposition. Thus, suitability of the plan to the capacities of the organization is a criterion which the planner should have in mind from the first and not merely in the final critical review. The virtue of explicit planning procedure is to make sure that all of these considerations are taken into account at some stage in the process. Some formalization of the planning process is required if market planning is to be widely accepted as a staff function.

18/Making Long-Range Planning Work

BRUCE PAYNE AND JAMES H. KENNEDY

Modern long-range planning on a systematic basis is quite different from the intuitive judgment practised by managers in the past. The authors offer some sound suggestions as to how to make long-range planning operational.

In most progressive companies, it is no longer necessary for executives to be sold on the values of long-range planning. The advances of modern technology and the effects of changing business conditions have made com placent drifting and intuitive judgment luxuries that today's managers can no longer afford. A sound, realistic plan for future action can spell the difference between corporate prosperity and failure in the years to come, and forward-looking managements are adopting the principles of long-range planning to minimize the risks that lie ahead and to insure optimum results from the development of their company operations.

WHAT IS LONG-RANGE PLANNING?

Long-range planning (LRP) is a new management technique that co-ordinates all the people and functions of a company in the achievement of practical goals, developed on a scientific and objective basis. It is much more than business forecasting, which involves trends and projections; long-range planning goes further, helping management to determine how to take advantage of the trends, how to minimize the effects of unfavorable trends, and how to attain reasonable and profitable objectives.

Nothing in the company can be overlooked or omitted in developing a long-range plan. Time-tables, specific plans, well-defined responsibilities, checks and balances, and intermediate as well as long-range goals must be developed for every facet of corporate operation. In most companies, this organized plan outlines a guide for management action for at least five or ten years, and it provides a detailed plan of operation for at least two years in the immediate future.

KEY STEPS IN LONG-RANGE PLANNING

The experience of the leading companies who have adopted long-range

SOURCE: From *The Management Review*, a publication of the American Management Association, vol. 47, February, 1958, pp. 4-8, 73-79. Bruce Payne: Bruce Payne & Associates, Inc. J. H. Kennedy: Bruce Payne & Associates, Inc.

planning is now beginning to crystallize into a rather definite pattern for the development of an effective plan. With judicious interpretation, these steps can be applied to the long-range planning efforts of practically any company, large or small.

1. *Define and state corporate goals*

Put the corporate goals in writing, and make sure that everyone who has any part in determining or achieving the goals understands them.

Obviously, no firm can engage in long-range planning without knowing, in some detail, the real goals of the company. But how well are goals usually understood? Yours is an unusual company if even the key executives can agree on what the corporate goals really are.

Clear, mutual understanding of corporate goals, then, is part of the preparation for LRP. The basic corporate goals should consist of much more than a simple statement such as "To make money", or "To return 5 per cent annually on investment", or "To be first in volume in our industry". Goals should take into account, practically, such factors as:

Risk ("We might triple sales and be No. 1 if we are successful, but if the plan fails we might lose our present position and seriously endanger the business. Is the potential gain worth the risk?")

Timing ("Does it really make any difference if we get there in 1965 or in 1970?")

People ("Should we restrict our goals to those that can be achieved without major executive changes? What is our attitude toward our employees, our stockholders, management, the trade, the community?")

2. *Measure achievement of corporate goals to date*

This measurement requires complete honesty. It calls for stepping back from day-to-day operations to form a completely objective assessment of all strengths and weaknesses, both within the company and outside in the market.

Because utter objectivity is extremely important, the over-all assessment is often best accomplished by a competent consulting firm. This step in LRP is, in effect, a corporate audit, and should include consideration of overall policy and management, financial position, sales and marketing, organization and staffing, physical plant and equipment, manufacturing effectiveness, research and development, quality control, personnel administration, advertising, and public relations.

3. *Bolster weak areas; tighten management controls*

Once any corporate weaknesses that do exist have been recognized as such, it is relatively easy to take steps of improvement. Such correction should be made before a company progresses any further with LRP.

This is also the time to tighten any management controls that should prove inadequate. The long-range planning function, a nerve center of the company, naturally requires current information in many forms—sales statistics, financial position, manufacturing data, economic projections. However, since this same sort of information is needed by top management and functional officers in their day-to-day and short-term activities, strengthening the existing control system is preferable to establishing separate controls for the use of the LRP function alone.

4. *Write the plan and get it accepted*

Although modern LRP is a discipline and a way of thinking, the plan should be put on paper to insure against possible omissions and to assure mutual understanding.

Each executive who is to share in the work of accomplishment should read and understand the entire long-range plan as it pertains to his function and to the company as a whole. This is the time for ironing out the details and smoothing over any personal differences or interpretations. Once the plan is accepted, further changes should be discouraged, so it is well worth while to devote several weeks to this step.

5. *Put LRP to work*

In order to keep the plan up to date, progress should be checked regularly and revisions or alternate plans made when necessary. This is where the hardest work must be done—often without the glamor or enthusiasm associated with the LRP project when it was new and exciting.

The plan should be audited every three months in the beginning, once a year after that time. Projections and detailed plans should be re-extended into the future with each audit of the plan; e.g., the 1958-1963 plan will be extended in 1959 to cover 1964, and so forth.

MAKING LRP WORK

Successful long-range planning is not easy. The basic requirements for making LRP work are fresh thinking, real decision-making, and hard work.

Fresh Thinking. It is, of course, natural to expect executives to think primarily about their own areas of responsibility: the controller about money matters; the chief manufacturing officer about plant, equipment, materials, and personnel; the top marketing executive about sales forecasts and share of market. In many companies, most of the coordinating between these somewhat diverse interests is done personally by the president or an executive vice president.

Through a sound long-range plan, executives become more interested in the company as a whole. Because they see where the company is headed and understand the role played by each function, they can apply themselves

even more strenuously to the fulfillment of their own responsibilities. And, since LRP looks into a future in which change is synonymous with progress, the very thinking about planning helps to break down resistance to change. LRP, in effect, opens minds and keeps them open and receptive to change.

Decision-Making. Fuzzy management disappears when LRP is applied. Ownership and management, having made major decisions on corporate goals and their achievement, must follow through with many other important decisions. Real LRP eliminates the gray areas of doubtful responsibility between executives and between departments and divisions.

Hard Work. LRP, to be effective, must be a living instrument—not a *Hard Work.* LRP, to be effective, must be a living instrument—not a confidential report in a locked drawer. Like true cost reduction, it is a philosophy that needs daily application and attention, frequent review, and constant interpretation. To make LRP work, therefore, management must roll up its sleeves, throw away tradition if necessary, and pitch in. Timid managers avoid LRP because it means committing themselves and the company to a course of action which, although flexible enough to meet major changes in conditions, is rather definite. But most executives today realize that, although it takes hard work to attain the established goals, it is far more dangerous to allow the company to drift along with no definite goals to work toward.

GETTING PARTICIPATION IN LRP

Long-range planning will work if top executives have confidence and faith in it. Since it is a primary responsibility of the president or chief executive officer, it is most essential that he personally lead the planning effort. The president's enthusiasm and support will filter throughout the organization, and the people who work daily with the plan will *make* LRP work by striving to meet its time table.

Much of the real work in LRP takes place long before the first plan is written, and one of the reasons for the success of today's plans is the effort in preplanning—planning for the planning.

When a company has a plan for the future, it is bound to have an effect on the people in the company. The reasoning might go something like this: "If sales are going to double in the next five years, we'll probably need more District Managers. I'd better work to get one of those jobs." When a man can see something for himself in his company's long-range plan, it is not hard to get his cooperation.

Beginning with the preplanning stage, as many people as possible should participate in creating the long-range plan. Give a little here and there so that more people can point to a little piece of the plan and say, "That's

my idea, my contribution". Soon the association broadens, and the entire LRP effort becomes "our plan".

One proven way to achieve participation is through a Long-Range Planning Board (purposely given the designation of "Board" rather than "Committee" to distinguish LRP as a top-level matter). Membership on the LRP Board should rotate, thus giving more executives an opportunity to present their ideas and become acquainted with the long-term objectives and ambitions of other corporate functions and executives.

THE IMPORTANCE OF OBJECTIVITY

Every company has weaknesses, and it is just facing facts to recognize them. A long-range plan should build on corporate strengths, but it should be tempered in its aims or timing by any weaknesses that are recognized. Many of these weaknesses can, of course, be corrected. For example, the need for additional market research often shows up during the original "corporate audit". If the company is large enough to support a Market Research Department, the function should be organized and manned before the first Long-Range Plan is put into effect.

Other weaknesses must be tolerated for reasons beyond management control. If, for example, the Vice President for Sales holds his position because his family owns a significant share of the company, this hard fact must be considered in planning. If this executive is weak on factual analysis, give him an assistant who can handle that aspect of the job. If it's clear that, regardless of his ability or performance, the man might be the next president, face that fact and plan on it. Be objective, and the long-range plan has that much additional chance of success.

The importance of objectivity was clear to one young company in the electronics industry that had been built around a single product. As the firm expanded into a related product line, annual sales climbed to over a million dollars in a few years, largely on defense work.

A cutback in defense spending for the items manufactured by this company caused it to look seriously into the future. A decline in sales and profits triggered thinking about long-range planning.

The company entered LRP with some rather grandiose ideas about cashing in on the consumer electronics business, perhaps in the television field. But management, when forced to be completely objective, soon recognized that the company's greatest strength was in its superior engineering abilities and its production facilities for a high-quality, low-volume product.

By being so objective and putting aside personal ambitions to be "someone" to U.S. consumers, management was able to capitalize on the company's basic strength. Market research pointed out six industrial markets for the company's basic product line—industries where the products could be used in automation. Sales and promotion efforts were focused on these six specific

markets, and the company's long-range plan included provision for further commercial applications after the company was equipped financially and became experienced in the necessary sales service.

SETTING INTERIM GOALS

One reason that old-fashioned forward planning rarely worked was the haphazard way in which interim goals were set. The so-called planning of a few years ago was often the result of a blue-sky management session held on a long weekend in some secluded lodge or resort. The optimists led the way, and the goals for the next year or five years were frequently pegged more on enthusiasm than fact.

How natural, then, for lower echelons of management to put little faith in goals that were seldom or never achieved! Modern LRP, to regain the confidence of the entire company, swings the pendulum back beyond center to compensate for existing attitudes. Goals for the first year, for example, are often set quite conservatively, with goals for subsequent years set closer to actual expectations. After one goal has been achieved, people at all levels rightfully take pride in the achievement and tackle the next goal without skepticism.

Another interesting aspect of interim goals is enthusiasm and support they can engender in people. It is not unusual to hear of young managers insisting on higher interim goals—then going right ahead and achieving them.

OVERCOMING RESISTANCE TO LRP

The case of a well-known manufacturer in the musical instrument industry confirms the value of setting realistic interim goals. This company had experienced a leveling-off in sales and profits. The old-timers were not upset, but younger board members, brought in during a recent period of additional financing, thought that the time for long-range planning had come.

The younger executives (they were in their late forties compared with an average age in the sixties for the older group) favored the adoption of a lower-priced line of instruments. But the older men, who had built the successful company, felt that the company's top product was the recognized quality leader in its field, and other products in the company's line shared in this high-quality image.

A market study of the company's external strengths and weaknesses confirmed the above reasoning, but pointed out an opportunity in the lower-price, lower-quality market. There were also opportunities to increase sales through better advertising and promotion, brand management, stronger dealer service, and the addition of more competent dealers.

Ideally, the long-range plan should have recommended immediate manufacture and sales of the lower-priced line, before competition became so

strong that entry into this part of the market would be more difficult. But the very idea of selling a lower-priced product was a terrible shock to the older executives, so modified interim goals were adopted: all the recommendations were accepted, *except* those involving a low-priced product. This procedure allowed achievement of the goals without major opposition from the older men, thus gaining their confidence in the over-all plan while giving them time to get used to the idea of making and selling an instrument for the high-volume market.

BUILDING FLEXIBILITY IN THE PLAN

A frequent criticism of long-range planning is that it encourages inflexibility, and that it just "can't be applied" in certain industries where seemingly uncontrollable factors control the business cycle. But modern LRP, being a practical and objective management tool, incorporates alternative plans to be put into effect in the event of an unexpected business recession, a major war, or a significant change within an industry.

In the current profit squeeze, for example, companies with comprehensive long-range plans know where they can pare costs without impairing achievement of long-term goals. Companies without LRP that engage in the usual "paper-clip and pencil" campaigns to reduce costs often damage relationships with employees or with suppliers and customers far more than is warranted by the actual dollar savings.

One major processor of a basic raw material, which has an almost unlimited choice of markets on which to concentrate, was faced with the problem of retaining some measure of flexibility while continuing to sell on a selective basis. How could it pinpoint markets to serve selectively —not offering a complete line to every U.S. industry—while maintaining flexibility?

The answer, developed as part of this company's LRP, was a new method of determining market suitability that puts numerical values on many of the tangible and intangible factors usually studied by management when a new market or a change in emphasis is being considered—growth, sales cost, sales leverage, competition, distribution structure, etc. It has been applied in varying forms in several leading firms, but in the processor's long-range planning the analysis is done on a *continuing* basis.

This new tool, developed as a byproduct of LRP, has given this company the flexibility to spot trends that affect the profitability of its sales in all major markets—with full consideration of management objectives and company limitations.

If the preparatory work of LRP is done well, a lot of enthusiasm will be generated within the company. Management must take advantage of this initial interest to get the first plan written and in operation within six months of the start of the project. Any planning that takes longer than

six months to get started stands a very good chance of never getting off the ground.

MAINTAINING LRP MOMENTUM

Even though some of the early enthusiasm will wear off, it is important to maintain a high level of vitality in the planning effort as it continues. Here are three tested ways of keeping the company, its daily operations, and its LRP all in tune-with each other.

1. *Assign Specific Responsibilities*

The president holds primary responsibility for long-range planning and cannot assign it to another executive, an assistant, a committee, or a consultant—but he may well call on all of this assistance to perform specific tasks. He may, for example, designate one man as coordinator of planning, a focal point for all LRP information. But the president alone retains the decision-making responsibility.

The president may also ask a consultant to make use of his objectivity and experience in evaluating corporate strengths and weaknesses. But the decision on what to do about the consultant's findings and recommendations will still remain with the president.

The detailing of individual responsibilities should be quite complete. If a new plant is to be built three years from now, the specific responsibilities for site selection, construction coordination, equipment selection and installation, financing, etc. should be assigned in the long-range plan itself —by name or job title, and with a target month for planned completion of each subtask. The more job functions that can be actually named in the basic plan, the greater will be the feeling of participation and chances of accomplishment.

Note the emphasis on timing as well as people. A master time-table for at least five years ahead, outlining who does what in each month, is perhaps the most vital document in the entire plan.

2. *Make Frequent Progress Checks*

The most effective long-term measure of the value of planning is, of course, profits. Although the determination of profitability would require a comparatively long period of time, it would be unrealistic to assume that a company should wait years to determine the value of long-range planning or to assess corporate progress towards long-term objectives.

Earnings and return on investment are only one yardstick for measurement of progress. The president should be constantly informed of actual accomplishment in comparison to the master time-table, and he should develop such other measures of the progress of his company as rate of

executive and employee turnover, progress of competitors, and attitudes of executives, employees, and customers.

3. *Revise When Necessary*

A certain amount of rigidity must accompany every long-range plan, because LRP commits a company to a specified course of action. There are continual pressures to abandon one segment of the plan, to change one of its basic assumptions—or even to toss the whole plan out the window. The president must stand firm against most of these suggested diversions, but he must also have the wisdom to revise the plan or adopt one of its alternative courses when necessary.

Technology in an industry may experience a great advance through the discovery of a new material or a new technique, or world conditions might cause drastic changes in living habits or economic conditions. A company's long-range plan should be revised quickly enough to take early advantage of such significant changes, but not so fast that the plan is constantly being diverted to meet short-term conditions.

THE BENEFITS OF LONG-RANGE PLANNING

Progressive companies that have applied the long-range planning philosophy have noted many benefits, some expected and some quite unexpected.

Crisis management becomes less pronounced. Most of the situations that can compound a crisis are considered in LRP, so fire-fighting management by exception tends to disappear. Greater emphasis can be put on the positive side of management by exception, analyzing outstandingly good performance rather than remedying mistakes.

Short-term dips assume less significance. If the corporate eye is kept focused over the horizon—on conditions that will prevail after five or ten more years of population increase and improved standard of living—then a few months of lower sales do not appear to be so devastating. LRP does not encourage complacence, but it enables a company to view current events in perspective.

New markets are entered as soon as possible. Any firm that has been selling to Europe, for example, or firms that have been considering such international activities, will be greatly affected by the European Common Market idea. Firms that looked ahead could have seen this move as a possibility years ago and would be able to implement their plans as ratification came closer. Firms without such long-range planning are obliged to start with a handicap of several years.

Money and men come easier. Financiers increasingly are insisting on knowing about a company's plan for the future. The need for money can be explained logically and clearly in terms of a company's long-range

plan. New executive talent is also attracted to a company with modern LRP. A man can better envision his own growth and security when he sees that these desirable features have been spelled out in a long-range plan.

Long-range planning is working today in many companies as a management service to anticipate corporate requirements and corporate action. It is a mark of industrial leadership by which good management is made more effective and good companies retain or attain recognition in their industry.

The case histories of successful LRP—taken from many of the country's leading corporations—are enough to convince anyone who still needs convincing that long-range planning, in its modern sense, is the most significant advance in management thinking of the current decade.

19/Decisions Involving High Risk

PAUL E. GREEN

This article questions the adequacy of traditional planning techniques for coping with the increasing complex problem of business planning. It is argued that conventional techniques suffer from two deficiencies : (1) a lack of a suitable conceptual framework ; and (2) the lack of a means of implementation. The author suggests that greater use of the Bayesian approach to decision-making under uncertainty will prove highly successful to most firms.

Concomitant with the growing complexity of business operations, the faster obsolescence of products and processes, and the increasing costs of technological development, the function of business planning is growing in stature. As the costs of wrong decisions continue to mount, as well as the costs of delaying even the right ones, it is not surprising that more attention is being devoted to the problem-search and problem-solving activity which business planning should embody.

If, however, the need for this function is becoming more apparent, might the traditional techniques of business planning be insufficient to deal adequately with the need? And if so, what other procedures might be used advantageously?

As a basis for examining these questions, let's start with the term *business planning.* This term refers to activities associated with making high-level, high-risk decisions, taking into account the relationship of the firm to its environment and involving deployment of significant amounts of the firm's resources to reach its longer term business goals.

Peter Drucker, in *Long-range Planning, Challenge to Management Science,*[1] has cogently expressed the decision aspects of business planning by first describing some things which planning is not. He says, for example :

1. "(Long-range planning) is not forecasting.... Any attempt to do so is foolish. Human beings can neither predict nor control the future....
2. "... it does not deal with future decisions. It deals with the futurity of present decisions...
3. "... (it) is not an attempt to eliminate risk. It is not an attempt to minimize risk."

[1] *Management Science,* Apr. 1959, pp. 238-40.

SOURCE: From *Advanced Management—Office Executive,* vol. 1, October, 1962, pp. 18-23, 34. Paul E. Green: Market planning and marketing research activities, Textile Fibers Department, E. I. Du Pont de Nemours & Co., Inc.

(Drucker defines (long-range) planning as "risk-taking decision-making".)

The business planner and decision-maker are thus properly viewed as persons dealing with present decisions (which carry future implications) or what Drucker calls the "futurity of present decisions".

Moreover, the planner must also deal with a complementary concept—namely, the immediacy of future decisions. That is, the planner must also consider how the decision-maker's ability to act in the future is affected by the present decision. Actions (including maintenance of status quo) can be taken only in the present.

Our conception of business planning is, thus, decision-and problem-oriented rather than merely a consideration of some general future setting for the firm. With this view in mind, note a few of the characteristics of traditional planning techniques for dealing with the risk decisions of business planning.

1. Conventional planning procedures tend to emphasize end-of-planning period, or snap-shot, views of payoffs rather than flows of sales and costs through time which are related to the courses of action under evaluation. In some planning studies no attempt is even made to provide a simple *accumulation* of profit experience through the period required to reach the firm's expected position in the terminal year of the planning period.

2. Associated with the preceding characteristic is that little formal use is made of discounting longer term revenues and costs to present value to reduce *different patterns* of these flows to a common denominator basis.

3. The complexity of real business problems tends to force the use of polling procedures of one sort or another where persons knowledgeable of particular facets of the firm's activity—such as experts on end use markets or competitive activity—are asked to supply data estimates for their particular sphere of expertise, sometimes subject to a set of over-all ground rules. Planning activity, at least in large corporations thus tends to involve the activities of many persons in the organization even though coordination may be restricted to a relatively small study group.

4. Estimates obtained by this polling procedure, however, are usually stated in "certainty equivalent" terms. That is, rather than being asked to state their estimates in terms of a range of responsibilities or to attach numerical probabilities to the occurrence of alternative future events, data contributors are usually asked to supply simply a single, or "most probable", estimate for those subject areas which fall within their purview.

5. The selection of alternative courses of action for evaluation tends to be narrow. Emphasis is placed on reducing some feasible set to a "representative" subset of courses of action. Emphasis is also placed on the search for dominant courses of action—such as those acts which are expected to yield at least as large a payoff as some other act under all states of nature (environmental factors affecting the decision) being considered (and yield a larger payoff under at least one of those states of nature).

6. Little or no attempt is made to consider even low-order interactions of the courses of action being evaluated.

7. The problem of formally considering the corporate multiple goal structure is usually avoided at the outset of the study—that is, in the screening process used for obtaining candidate courses of action. Some type of formal check list may be used in this screening process.

A portmanteau variable like total profits or return on investment is then usually selected as the payoff criterion to be applied to those candidate courses of action which have survived the screening test. Risk attitudes are not explicitly analyzed by means of utility functions or similar conceptual devices for dealing formally with risk.

8. Little or no attempt is made to test the sensitivity of the outcomes of the study to departures in the basic assumptions.

9. Few formal devices are used to incorporate feedback data from the field, such as market surveys or early sales results. Insofar as the use of informal means, such as salesmen's reports, is concerned, the typically unreliable aspects of early feedback data tend to be neglected in the sense that highly generalized inferences may be made on the basis of a very small sample, particularly if there exists some "spectacular event" in this sample, such as, "Company ABC definitely does not think that the new product has sales potential" !

CONTAIN SEVERAL INADEQUACIES

Apparently traditional planning techniques contain several inadequacies for coping with planning problems. For example, although uncertainty abounds in business planning problems, few attempts have been made to incorporate a probabilistic framework in planning analyses. Although the futurity aspects of present courses of action are important, relatively little use is made of the discounting function and similar capital budgeting tools.

The deficiencies of traditional techniques might be grouped conveniently under two classes (*a*) lack of a suitable conceptual framework within which the characteristics of planning problems can be viewed; and (*b*) lack of a means to implement this conceptual framework from a computational standpoint.

It is hardly surprising that relatively little use (at least by business planners) has been made of the procedures developed under the general heading of decision theory.

First, these techniques are, for the most part, of recent origin. Moreover, many of the contributions to this subject have had rather specialized distribution, and they have been associated with areas of interest (such as the foundations of statistics) that are typically outside the purview of business planning personnel.

A notable exception, however, is the recent book by Robert Schlaifer, *Probability and Statistics for Business Decisions.*[2] This particular work offers one of the most provocative and complete procedures for dealing with decisions under uncertainty, namely the Bayesian approach[3] available to the business planner.

The Bayesian approach to decision-making under uncertainty provides a framework for explicitly working with the economic costs of alternative courses of action, the prior knowledge or judgments of the planner, and formal modification of these judgments as additional data are introduced into the problem.

DESCRIBING IT IN TERMS OF QUESTIONS

While the full richness of this set of techniques cannot be explored here, at least the principal aspects of Bayesian decision theory might be described in terms of a series of questions with which this approach is designed to cope. These questions are:

1. Given specific alternative courses of action (such as different plant sizes or introductory price levels) whose effectiveness is dependent upon the occurrence of alternative "states of nature" (such as consumer demand or competitive retaliation), how should a decision-maker choose the "best" course of action, if he is not certain as to which state of nature will in fact prevail?

2. Given the opportunity to conduct, at a cost, some type of data-gathering activity (such as a consumer survey), should the decision-maker "purchase" more data bearing on the chances that alternative states of nature will occur and then take terminal action, or should he choose some "best" act now and forego the collection of additional data? Moreover, how should the data collection be designed?

3. Given the additional data (frequently subject to both sampling error and systematic error or bias), how can the decision-maker use the additional data to modify his initially held judgments about the occurrence of the alternative states of nature deemed relevant to the problem and then take optimal action?

FEATURES OF THE BAYESIAN APPROACH

An oversimplified planning example may illustrate some of the features of the Bayesian approach.

Assume a decision-maker is faced with the problem of choosing an appropriate plant addition for the commercialization of a modified textile yarn

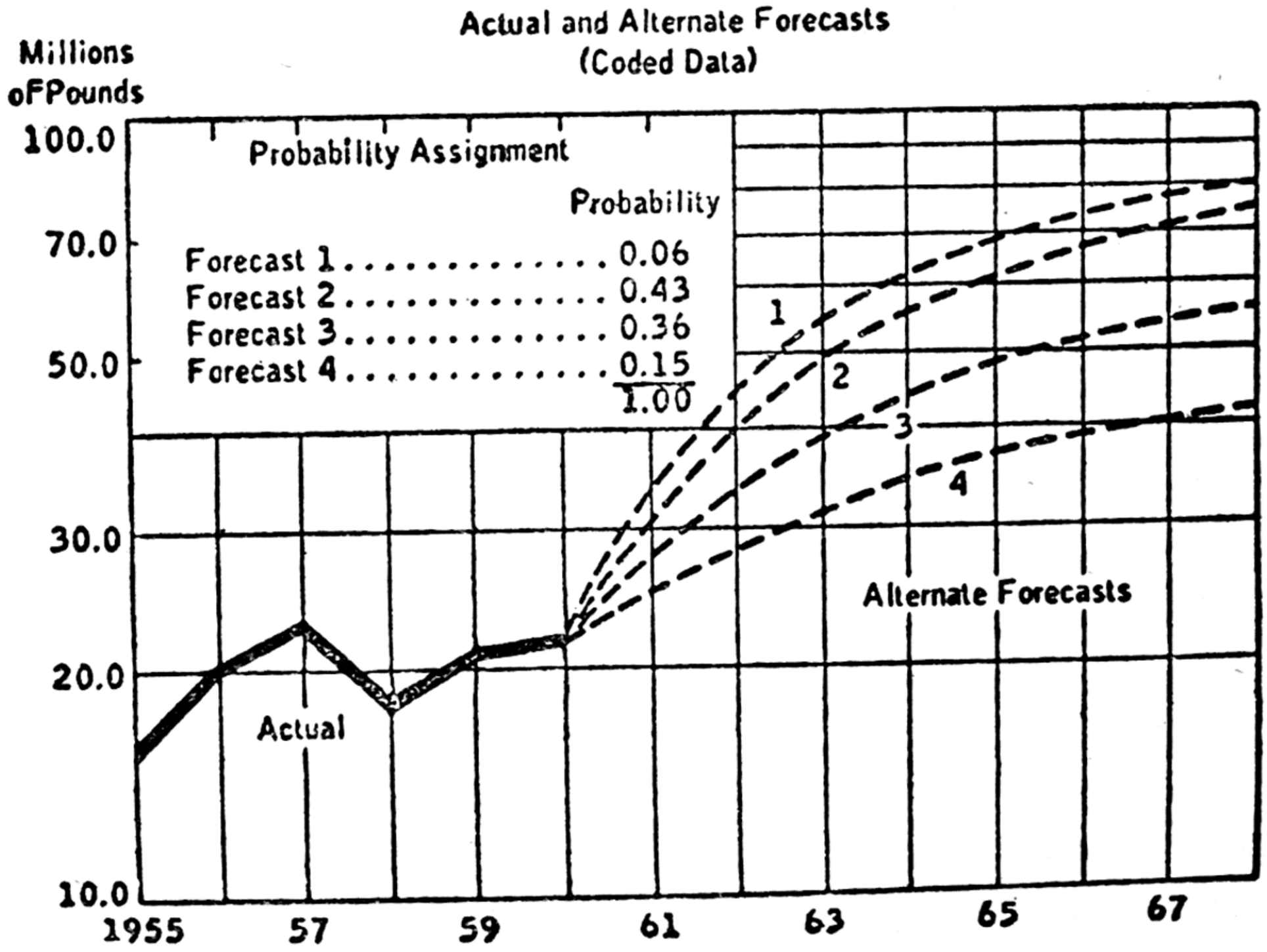
[2] McGraw-Hill Book Co., 1959.

[3] The so-called Bayesian approach owes its name to a central feature of the procedure, Bayes' theorem, named after its developer, Thomas Bayes.

product (called, say, Texcel) under an uncertain future demand for the modification.

Building a plant too large, relative to demand, would result in costs associated with idle capacity. Building a plant too small, relative to demand, would result in costs associated with both profits foregone and the opportunity for competitors to increase their share of the market at the firm's expense.

Figure I, Texcel Fiber Forecasts



If we assume the decision-maker is considering four alternative plant sizes—A, B, C, and D—ranging from large to small, then if the demand were high, payoffs would tend to favor the A plant addition, while if the demand were low, payoffs would tend to favor the D plant addition.

Assume that the firm's marketing personnel have attempted to forecast alternative levels of potential sales for the product (states of nature in Bayesian parlance) and they believe that some levels are more likely to occur than others. These alternative levels appear in Figure 1. Subjective probabilities of occurrence have been assigned to each forecast, 1 through 4.

The planner must then consider the payoffs over the whole planning period which would be associated with the combination of each plant size and sales forecast. These calculations would typically take into account the flows of revenues and costs after certain assumptions have been made on competitive behavior, pricing, and similar considerations.

In this example, assume that the payoff (say, in discounted cash flow) associated with the conjunction of each alternative course of action and each alternative state of nature (potential sales) has been summarized as shown

Figure 2 Texcel Problem

Table 1 Payoff Matrix—Unweighted (Entries-MM $)

Capacity addition strategy	*Sales forecast*			
	1	*2*	*3*	*4*
A	30.8	21.7	(—) 2.2	(—) 29.3
B	28.3	23.6	8.3	(—) 17.8
C	14.8	14.2	10.9	(—) 9.8
D	7.3	6.5	5.1	(—) 7.2

Table 2 Originally Weighted Payoff Matrix (Entries-MM $)

Capacity addition strategy	*Sales forecast*				
	1 (P = .06)	*2 (P = .43)*	*3 (P = .36)*	*4 (P = .15)*	*EMV*
A	1.85	9.33	(—) 0.79	(—) 4.40	5.99
B	1.70	10.15	2.99	(—) 2.67	12.17
C	.89	6.11	3.92	(—) 1.47	9.45
D	.44	2.80	1.82	(—) 1.08	4.00

Table 3 Equally Likely Weighted Payoff Matrix

Capacity addition strategy	*Sales forecast*				
	1 (P = .25)	*2 (P = .25)*	*3 (P = .25)*	*4 (P = .25)*	*EMV*
A	7.70	5.43	(—) 0.55	(—) 7.33	5.25
B	7.08	5.90	2.08	(—) 4.45	10.61
C	3.70	3,55	2.73	(—) 2.45	7.53
D	1.83	1.63	1.28	(—) 1.80	2.94

in Figure 2, Table 1. If the high sales forecast (Forecast 1 in the chart) were to occur, then strategy A (large plant) would provide the highest payoff.

APPLYING SUBJECTIVE PROBABILITIES

Under forecast 2, strategy B would provide the highest payoff, and so on. However, by applying the subjective probabilities associated with the occurrence of each forecast, as noted in Figure 2, Table 2, strategy B provides the highest expected monetary value, EMV, and would then be selected under the Bayesian approach.

Moreover, to test the sensitivity of the best choice to changes in the forecast probabilities, it is noted in Figure 2, Table 3, that assignment of an equiprobable measure (0.25 probability to each forecast) would not change the decision to select the strategy listed as B.

In this example, many other features of the Bayesian approach have been omitted.[4] Still, the illustration, though brief, does demonstrate the planner's need to consider alternative environments and their associated probabilities of occurrence, flows of revenues and costs, and the use of sensitivity analyses to indicate how the profitability of the "best" strategy might behave with changes in the assumptions underlying the analysis.

However, as can readily be imagined, the calculational burden associated in dealing with the complexities of actual problems goes considerably beyond what is illustrated here.

IMPLEMENTING BAYESIAN APPROACH

It is hardly surprising that the use of an electronic computer can assist materially in implementing the Bayesian approach as well as in other areas of business planning activity. For instance:

1. The computer can be used in screening possible courses of action. In diversification planning, for example, the usual procedure is to set up a list of criteria, against which candidate products and/or companies are matched. In large-scale programs of this sort, the computer can provide a ready means to perform this screening function.

2. The computer can be used to explore relevant states of nature via various types of forecasting models. Not only may the usual techniques of regression analysis and related statistical procedures be employed, but also forecasting models incorporating various dynamic features can be devised and tested retrospectively on the computer.

3. After various courses of action or states of nature are screened, the computer also provides an effective way to implement the Bayesian model. For example:

a. The computer provides the capacity for expeditiously evaluating a greater number of courses of action, if relevant to the problem.

b. The computer may be used to establish the initial payoff functions—a not easy calculational task if the planning period is long.

c. The computer provides a means to perform the desired sensitivity calculations after initial outcomes have been determined.

d. The computer can be used to provide flexible model in which field data can be entered for the calculation of *revised* probabilities via the Bayesian approach. In other words, this model (for example, the computer

[4] For instance, "indifference probabilities" could have been computed. These are probabilities which would have to be associated with the occurrence of some state of nature more favorable to an inferior strategy before that strategy would break even with strategy B. Also, calculation of the costs of uncertainty ($2.63 million in this case) could have been illustrated to show the stake involved in a decision to collect more information before taking terminal action. Moreover, the modification of initial probabilities by using additional data has been omitted as well.

program) can be established and maintained on a reasonably current basis, for incorporating new estimates as needed and then determining the implications steeming from these revisions.

It would thus seem that the computer can provide a useful (and frequently necessary) device to develop the payoffs associated with the complex course of action-state of nature combinations found in actual planning problems.[5] In the two years during which this approach has been used experimentally at Du Pont, computer assistance has been decidedly useful.

In summary, the decision theory-computer approach offers provocative possibilities for dealing with the uncertainty aspects and ill-structured nature of business planning problems. Continued development of this approach might well provide the business planner with a set of techniques powerful enough to be commensurate with the complexity and importance of his functional area.

[5] As an illustration dealing with the complex characteristics of industrial market planning, the writer's : "An Application of Bayesian Decision Theory to a Problem in Long-Range Pricing Strategy," Annual Meeting of American Statistical Assn. (New York, December, 1961), might be of interest.

20/ *Decision Theory and Marketing Management*

ROBERT D. BUZZELL AND CHARLES C. SLATER

The authors of this article present, in detail, a case study which shows how a firm solved a basic problem of considerable magnitude through the use of some of the latest decision theory techniques.

The term "decision theory" refers to a body of methods by which complex problems of decision under uncertainty can, in effect, be reduced to a limited number of simpler problems for purposes of analysis. A more specific term for the method recommended here is *individual decision-making under risk.*[1] By this is meant a formal analysis of decision alternatives and their consequences when the effects of the decision are not known with certainty.

DECISION THEORY APPROACH

The basic elements of decision making under risk may be summarized briefly.[2] A decision maker (person or firm) must choose among several "acts" or "strategies" which we denote as A_1, $A_2 \ldots A_n$. Each act is a well-defined series of actions or procedures; thus, "Act 1" may mean, "Build a new retail outlet at X location with 20,000 square feet of floor space". "Act 2" may represent the reverse, "Build no new retail outlet". Insofar as possible, the sets of acts employed in the analysis should include *all* reasonable possibilities in a given situation. Experience, judgment, and creativity are required to identify the decision possibilities in a marketing problem.

Choice among the various possible acts is difficult because the consequences of an act depend on certain *conditions* which cannot be predicted with certainty. These conditions may be termed "states of nature" and designated E_1, $S_2 \ldots S_m$. The "state of nature" concept includes all factors which determine the effects of a marketing decision (for example,

[1] Compare Duncan Luce and Howard Raiffa, *Games and Decisions* (New York: John Wiley and Sons, Inc., 1957), pp. 12-15.

[2] See Robert Schlaifer, *Probability and Statistics for Business Decisions* (New York: McGraw-Hill Book Co., Inc., 1959); and Luce and Raiffa, same reference as footnote 1.

SOURCE: From *Journal of Marketing,* national quarterly publication of the American Marketing Association, vol. 26, July, 1962, pp. 7-16. Robert D. Buzzell: Assistant Professor, Graduate School of Business Administration, Harvard University, Charles C. Slater: Head of Consumer Marketing Services, Arthur D. Little, Inc., Cambridge, Mass.

the responses of customers, general business conditions, and competitors' reactions). For example, "State 1" may represent "population in the trading area increases 10 per cent in the next five years, and competitors build three new stores." As in the case of decision possibilities, *all* relevant states of nature should be included in the analysis of a decision, so far as possible. In a literal sense, of course, this can never be attained, so that "complete" optimization is not feasible.

The states affecting the outcome of a decision may *be related to* the particular decision chosen. For example, a decision to use a specific advertising strategy might lead to a defensive response by competitors which could not occur if a different strategy were selected. Consequently, the relevant "states of nature" must be identified for *each* possible act A, although, of course, the same states of nature *may* apply to several or all acts.

Assuming that a given act is selected and that a given state of nature prevails, it is possible to determine the "payoff" to the decision maker. By "payoff" is meant the monetary and other consequences of the decision. A difficult problem is presented when nonmonetary "payoffs" must be incorporated. In relatively simple problems, it may be possible to assign "cash equivalents" to these consequences. More generally, modern utility theory provides a mechanism for assigning numerical measures to the results of a decision, including monetary and other effects. These payoffs should be estimated on a *net* basis; that is, the costs of carrying out the decision (if any) should be deducted from its estimated revenue.

Determining the payoff of an act under a given state is not an easy task, since a decision of any real importance has far-reaching indirect consequences, in addition to its immediate impact on profits. For example, a decision to market a new product has effects on the long-term sales patterns of existing products, in addition to its own success or failure. Estimation of payoffs is further complicated by the fact that, if they are to be realistic, payoff measures must reflect the particular values of the decision maker, and these vary among persons. While the treatment of payoffs in this example is straight-forward, it does not imply that the problem is this simple in practice.

Because the outcome of a decision is shrouded in uncertainty, a key element in the analysis of a decision is to assign *probabilities* to the various possible "states of nature". In some cases, especially those involving *repetitive* decisions such as routine buying and inventory control, it is relatively simple to determine the probabilities of occurrence for various "states" through analysis of quantitative evidence. For example, sales data may reveal that demand for an item is between 10 and 19 units per week 20% of the time, between 20 and 29 units 15% of the time, and so on. These *relative frequencies* may then be used directly as probabilities of occurrence for the various states of demand (assuming, of course, that no basic changes take place in the market, seasonal variations have been accounted for, and so forth).

In most cases involving basic marketing policy problems, however, determination of probabilities for the relevant "states" is not so easy. In most cases, major policy decisions are not repetitive problems, and past experience may provide only a rough and rather ambiguous guide. *Nevertheless, even very crude approximations of probabilities for the various states affecting a decision still are better than none at all.*

The probabilities assigned to the various states represent the decision maker's "betting odds" as to the probable responses of customers, competitors, and so forth. Admittedly, it is very difficult to assign odds or probabilities to such events. But even in the most informal kind of decision making, this is precisely what managers *must do.* Any risky decision implies some assessment as to what will ensue from the decision. The real difference between "decision theory" and present management practice is the formalization of this "intuitive" process of choosing among various possibilities. While this may not improve the judgment of the individual decision maker, it improves his communication with others and facilitates the collection and analysis of further information. More important, it forces an executive to examine his problem in concrete terms, and thus serves as a stimulus to more systematic thinking on his part.

Given the various possibilities, the relevant states of nature and estimates of their probabilities of occurrence, and the payoffs for each act given each state, some act must be selected as the "best" of those available. Several different criteria have been proposed for selection of the "best" or "optimal" act, depending in part on whether or not probabilities are assigned to the states. The one adopted in this analysis is that of selecting the act with the *highest expected payoff.* The expected payoff of an act is defined as the average of its (net) payoffs under all possible states of nature, each weighted by its probability of occurrence.

To illustrate the concept of expected payoff, consider the following simple problem.

	Decision Possibilities		
States of nature	A_1: *build a new store*	A_2: *do not build*	*Probability of state*
s_1 : new subdivision is built	$ 1,000,000	0	0.3
s_2 : new subdivision is not built	—500,000	0	0.7

Here the payoffs, as previously explained, represent dollar profits to the decision maker, with future profits discounted to present values. The probabilities are based on management's assessments of such factors as population growth, real estate markets, and zoning. The expected payoff of A_2 is obviously zero, since this decision has no payoff regardless of what happens. The expected payoff of A_1 may be computed as follows:

$$\$1{,}000{,}000\ (0.3) - \$500{,}000\ (0.7) = \$300{,}000 - 350{,}000 = -\$50{,}000$$

Under this criterion, then, A_2 should be chosen, and the new store should not be built. This is equivalent to saying that the chances of success are not good enough to justify the risk.

The logic of selecting the act with the maximum expected payoff is clear-cut in the case of repetitive decisions. Since the decision is repeated over and over, we expect (by definition) the average return per decision to be the expected payoff as computed above. Hence, we should select the act that produces the highest average payoff per decision and the highest total payoff in the long run.

On the other hand, when a decision is to be made only once, the rationale of the expected payoff criterion is not so obvious. This criterion leads to the optimal decision in the sense of yielding a decision consistent with the decision maker's preferences, as summarized in the payoff table.[3]

DISTRIBUTION PROBLEMS OF THE BAKING INDUSTRY

Wholesale bakers, in common with many other types of firms, face difficult marketing problems as a result of changes in the character of their markets. These problems arise from substantial excess capacity on the one hand, and concentration of buying power among corporate chains, voluntaries, and cooperatives, on the other hand.

Development of Marketing Policies

The present-day marketing policies of wholesale bakers can best be understood in the context of the historical factors underlying their development and modification.

The commercial baking industry emerged during the latter half of the 19th century. During this period, as commercial bakers expanded their distribution beyond the immediate neighborhood of their plants, they developed a set of marketing policies geared to the needs of the small independent grocers. Among the more important of these were:[4]

1. Frequent deliveries were made to individual stores.
2. Bakers assumed responsibility for returned stale goods.
3. Retailers customarily stocked several brands.
4. Bakers provided display equipment, stocked displays, and deliberately overstocked shelves in order to increase brand exposure.

[3] Luce and Raiffa, same reference as footnote 1, pp. 20-23; also Schlaifer, same reference as footnote 2, Chapter 2.

[4] William G. Panschar, "Baking in America", vol. 1, *Economic Development*. (Evanston, Illinois: Northwestern University Press, 1956), pp. 71-84, 93-99.

5. Price competition was abandoned in view of the oligopolistic character of each retail market. In addition, "flat pricing" became customary; that is, each customer was charged the same unit price regardless of quantities purchased or terms of sale.

These marketing policies, developed for the most part in the early 20th century, largely comprise the "rules of the game" in the baking industry today. While each policy can be explained as a rational response to market conditions prevailing at the time, many of them have become less and less appropriate as market conditions changed. The impact of these changes has been made all the more severe because of the inhibiting constraints of labor unions and competitive retaliation in response to change.

Responses to Changing Market Conditions

Wholesale bakers in a given market tend to charge identical or nearly identical prices for white bread and other staple bakery products. The explanation lies primarily in the oligopolistic interdependence of the sellers, although illegal price-fixing agreements have been discovered or alleged in some cases.[5] Unit costs are sensitive to changes in output, since fixed production and distribution costs represent a substantial proportion of the total cost for modern bakery plants. Declines in sales in some markets have had the effect of reducing profits substantially. The response of the larger and more efficient competitors has been, in many cases, to *raise* prices and thus hold an "umbrella" over their weaker competitors. Obviously this policy has tended to aggravate the problem of shrinking demand by increasing the cost gap between chain bakeries and purchased baked goods.

An even more important aspect of pricing is the policy of "flat pricing". Typically, no quantity discounts are offered, nor are lower prices available for customers who are willing to forego the traditional store delivery and display services. But chains and other large buyers feel they are entitled to such discounts, and have exerted considerable pressure for them. The evidence is clear that substantial *potential* cost savings are associated with large purchases.

A systems engineering study showed that drivers' product handling rates (units handled per minute of driver time) are directly related to the number of units delivered per route stop.[6] The handling rate was more than 50% greater for stops at which 200 units are delivered than for stops at which 100 units are delivered. *Realized* cost savings are not this great, since drivers are paid on a commission basis so that improvements in driver efficiency are not reflected in lower unit wage costs. Even under the com-

[5] For example. *Continental Baking Company v. United States*, U.S. Court of Appeals for the Sixth Circuit, No. 13865 (decided July 18, 1960); *Bakers of Washington, Inc., et al.*, FTC Complaint, Docket 8309 (issued March 7, 1961).

[6] *Distribution: The Challenge of the Sixties*, a report prepared for the American Bakers' Association (Cambridge, Massachusetts: Arthur D. Little, Inc., March, 1961).

mission system, however, substantial savings in unit distribution costs are associated with larger drop sizes. (The systems engineering study also revealed that limited-service methods of distribution permit significant reduction in costs.)

Despite evidence that lower costs are associated with quantity sales and limited-service distribution methods, most wholesale bakers have resisted demands for differential pricing. This resistance is based in part on the commission system of compensation typically part of the companies' union agreements. Another factor underlying the resistance to change is the fear that doing so would alienate the small outlets which require full service and which (it is believed) would resent any preferential treatment for their larger competitors, even if justified. Also, it is feared that initiation of quantity or service discounts might lead to chaotic price competition unrelated to any economic justification.

Wholesale bakers have also resisted making private brands for chains or voluntaries because of fear of being boycotted by independents. As a compromise measure, many bakers have developed "secondary" brands of bread which are sold at lower prices than the regular brands, although little difference exists in product characteristics. The price differential is not, however, great enough to equal chain-baked brands, and the main result has been a reduction in average profit for the bakers.

In summary, wholesale bakers have responded to the twin challenges of large-scale retailing and declining per capita bread consumption by attempting to maintain the *status quo.* As output has declined, prices have been raised to maintain the profitability of marginal operators. A uniform local system of pricing and customer services has largely been preserved, despite persistent pressures to deviate from it. Territorial expansion has taken place with the result of higher unit distribution costs. Apart from the general inertia of any established marketing system, several specific factors have tended to impede a more flexible response.

The commission system of driver compensation has discouraged quantity and service discounts. Fear of retaliation by small retail customers has prevented bakers from dealing more realistically with chains. Because of the existence of excess capacity, bakers have feared and sought to avoid the chaotic price competition which might ensue if the traditional ground rules were discarded.

The method of analysis which this article recommends is that of statistical decision theory. The application of this method to a specific bakery marketing policy problem is outlined in the following section.

DECISION THEORY ANALYSIS APPLIED

For purposes of this exposition, a "model bakery market" has been developed, consisting of three competing wholesale bakers, several retail

food chains and voluntary groups, and a number of independent food retailers. For obvious reasons, the other possible acts, appropriate states of nature, and the payoffs must be identified or estimated for a specific firm. Different firms, even in the same local market, might conceive of different acts and states, and almost certainly would have different payoffs for a given decision and state.

In the context of this model market, the analysis is directed to the resolution of a specific decision problem, that of responding to a customer's request for provision of a private brand. Although this analysis is incomplete in the sense that we have not traced the *full* implications of each possible decision, suggestions for a continuation of the analysis are made in a subsequent section.

The Model Bakery Market

The hypothetical bakery market was designed to reflect typical market and operating conditions in many metropolitan areas in the United States. In this market there are three wholesale bakers, designated as A, B, and C; and two chain bakeries, those of the Blue Chain and the Red Chain. Wholesale Baker Z, located in a nearby city, is a potential "outside" competitor. The customers served by these bakeries are designated as follows:

Blue, Red, and Green corporate chains
Retailer cooperatives I and II
Voluntary chain I
Independent supermarkets
Small independent stores
Sales outside the market to various customers

The white-pan bread sales of each bakery to each customer are shown in Table 1. Bakery A has the dominant market position, with sales of approximately 400,000 units per week; competitors B and C sell approximately 250,000 units and 100,000 units, respectively. The two chain bakeries produce 250,000 units per week. Thus, the total bread market amounts to about 1,000,000 units per week.

It is assumed that the total market is fixed in the short run and that demand is sufficiently inelastic so that it will not be quickly affected by baker's marketing decisions. Selling or transfer prices per unit for each bakery are also given in Table 1. It is assumed that each bakery follows the typical industry policy of "flat pricing", with no systematic price differentials for quantities purchased or services required. An average difference of one cent per loaf in *realized* price exists in favor of large customers, primarily on account of their greater utilization of advertising and other allowances.

The cost structure of Bakeries A, B, and C is shown in Table 2. Operating

Table 1 Weekly Sales by Class of Customer, Selling or Transfer Prices Per Unit, and Dollar Sales Volume for Competing Bakeries in "Everytown, U.S.A." Market

	White Bread Sales in Thousands of Units by Customer and Price per Unit Sales to												
Bakery	*Yellow chain*	*Blue chain*	*Red chain*	*Green chain*	*Coop. 1*	*Coop. II*	*Vol. 1*	*Small chains*	*Indep. supers*	*Small indeps.*	*Outside market*	*Total*	*Dollar volume*
A	22@.19	50@.19	10@.19	7@.19	114@.19	76@.19	60@.19	22@.20	11@.20	22@.20	—	394	75,410
B	15@.19	36@.19	8@.19	3@.19	72@.19	48@.19	39@.19	15@.20	8@.20	15@.20	—	95	17,920
C	3@.19	14@.19			24@.19	16@.19	11@.19	3@.20	1@.20	3@.20	20@.18	95	17,920
Red chain			162 @.155									162	25,110
Green chain				90@.165								90	14,850
Z												—	—
Total	40	100	180	100	210	140	110	40	20	40	20	1,000	183,205

costs are classified as fixed costs (administration, production, and distribution), and variable costs (production and distribution). The relationship of costs to sales volume is a simple linear one:

$$\text{Total Cost} = \text{Fixed Cost} + \text{Variable Cost per Unit (Output in Units)}$$

This equation for bakery operating costs provides a reasonably good approximation to their actual cost structure.

The assumed fixed and variable costs have been used in Table 2 to compute net profits for each of the three competing wholesale bakers under the "initial market conditions" of Table 1. For example, Baker A has sales of 394,000 units per week. This level of sales results in total weekly variable costs of $54,474, plus fixed costs of $12,662 per week, or a total cost of $67,136.

Hence, net profit before taxes amounts to sales of $75,410 minus operating and fixed costs of $67,136 = $8,274. Profits of Bakeries B and C have been computed in similar fashion in Table 2. While Tables 1 and 2 present simplified picture of revenues and cost, they are accurate enough for the illustration.

Analysis of a Decision

In the context of the "model bakery market" described in Tables 1 and 2, the application of decision theory to a policy problem may now be illustrated. In this analysis the viewpoint of Baker B, the second largest wholesale baker in the market, is taken.

Let us assume that the Blue Chain asks Baker B to produce a private brand of bread for sale in the Blue Stores. The problem is, how should

Table 2 Weekly Costs, Sales, and Profits of Competing Wholesale Bakeries in "Everytown, U.S.A." Market

Sales, cost, or profit	*Baker A*	*Baker B*	*Baker C*
Fixed cost—baking	$ 4,310	$ 3,732	$ 1,384
Fixed cost—routes	1,741	1,429	559
Fixed cost—marketing	2,277	1,743	538
Fixed cost—administration	4,334	2,261	862
Total fixed costs	$12,662	$ 9,165	$ 3,343
Variable cost—baking	$.09641/unit	$.10545/unit	$.11053/unit
Variable cost—routes	.03072/unit	.02928/unit	.03007/unit
Variable cost—marketing	.01113/unit	.01115/unit	.01122/unit
Total variable cost	$.13826/unit	$.14588/unit	$.15182/unit
Initial market conditions :			
Sales	$75,410	$49,590	$17,920
Total cost	67,136	46,955	17,767
Net profit	$ 8,274	$ 2,635	$ 153

Baker B respond to such a request? The decision theory approach may be summarized in six "steps" as follows:

1. *Identification of Different Possibilities.* Baker B has at least five different basic courses of action open to him, in response to the Blue Chain's request:

A_1 Ignore the request; that is, refuse it outright, or delay any response so long as it amounts to a refusal.

A_2 Make a counter-offer to produce a "secondary brand" bread to be sold at a lower price than the regular "B Brand" Bread.

A_3 Reduce price on the regular brand.

A_4 Accede to the request of the Blue Chain.

A_5 Institute a system of price differentials based on quantity and service rendered by Baker B. Such price differentials would necessarily (under the law) be offered to all buyers in the market; but in view of the Blue Chain's size and personnel capabilities, this would presumably result in somewhat lower prices to Blue than to most others.

Identification of these possibilities implies a considerable knowledge of the nature of the wholesale bread market and the motivations of the customers therein. It is assumed that the Blue Chain wants a private brand so as to improve its competitive position relative to the Red Chain, which has its own bakery plant. If this is true, the real question is, what possibilities are available to Baker B that might enable the Blue Chain to attain this goal? Possibilities A_2, A_3, and A_5 have little to do with private brands, but all are designed to help the Blue Chain achieve its presumed objective. Perhaps still other possibilities could be identified.

2. *Enumeration of States of Nature.* For each possibility it is necessary to identify the possible "outcomes" or states of nature governing the effect of the decision. In this problem, the states must take account of the responses of Baker B's customers and competitors to any action he takes.

If Baker B follows possibility A_1 and ignores the Blue Chain's request, there are six possible outcomes:

S_{11} Blue is supplied by outside Baker Z. Having achieved a foothold in the market, Z also supplies private label bread to the Yellow Chain and to Coop I.

S_{12} Blue is supplied by Z, but Z fails to get any other business.

S_{13} Blue is supplied by local Bakery A or Bakery C.

S_{14} Blue acquires its own bakery plant and decreases its purchases from B.

S_{15} Blue decides to wait; but resentful of B's refusal, adopts minor counter-measures, including reduced display space and less careful maintenance of B's display stocks.

S_{16} Blue decides to wait and does *not* adopt any counter-measures.

In similar fashion, the possible outcomes of each of B's decision possibilities have been enumerated. Some of these outcomes are common to some or all of the decision possibilities; but in general the relevant "states" or outcomes depend on the particular decision made by B. The whole range of

decisions and outcomes is summarized in Table 3.

As was suggested in the general discussion of decision theory, the number and nature of the outcomes differ for the various decision possibilities, since these outcomes consist in part of *responses* to a particular decision. This also implies that the *probabilities* of the various outcomes differ from one possibility to another, even if the possible outcomes themselves are the same.

3. *Exploration of Further Possibilities and Outcomes.* The analysis of the decision process usually cannot stop realistically with a single "round" of actions and their outcomes. In order to appraise the consequences of each decision possibility, it is necessary to explore the whole chain of effects and reactions that would ensue from a given action by Baker B.

Table 3 Decision Alternatives and Possible Outcomes

A_1 *ignore request*	A_2 *offer secondary loaf*	A_3 *reduce price*	A_4 *accede to request*	A_5 *price diff. system*
S_{11} Z supplies Blue, Yellow and Coop. I.	S_{21} (same as S_{11})	$S_{31} = S_{11}$	—	$S_{51} = S_{11}$ (Blue rejects counter-offer)
S_{12} Z supplies Blue only	S_{22} (same as S_{12})	$S_{32} = S_{12}$	—	$S_{52} = S_{12}$
S_{13} A or C supplies Blue	S_{23} (same as S_{13})	$S_{33} = S_{13}$	—	$S_{53} = S_{13}$
S_{14} Blue acquires own Bakery	S_{24} (same as S_{14})	$S_{34} = S_{14}$	—	—
S_{15} Blue waits, harrasses B	S_{25} (same as S_{15})	—	—	—
S_{16} Blue waits	S_{26} (same as S_{16})	—	—	—
—	S_{27} Blue accepts offer ; A and C follow suit	—	—	—
—	—	S_{38} Blue accepts offer ; A and C do *not* follow suit	—	—
—	—	S_{39} Blue accepts; A and C follow ; B retains slight advantage	—	—
—	—	$S_{33, 10}$ Blue accepts ; A and C follow ; market returns to original division	—	—
—	—	—	$S_{4, 11}$ Blue accepts; A and C offer secondary loaf	—
—	—	—	$S_{4, 12}$ Blue accepts ; A and C lower prices ; B is forced to meet	—
—	—	—	$S_{4, 13}$ Blue accepts ; A and C offer private labels to Yellow and Coop. 1.	—
—	—	—	—	$S_{5, 14}$ Blue accepts; A and C follow suit
—	—	—	—	$S_{5, 15}$ Blue accepts; A and C lower prices

For example, suppose B refuses (A_1) and Z supplies the Blue Chain as well as the Yellow Chain and Coop I (S_{11}). Then B is confronted by a new set of possibilities: he can retaliate by supplying retailers in Z's own market, hoping to drive Z out of the local market; or he can meet Z's competition locally. If he retaliates in Z's market, the outcome will again depend on the "state of nature." The possible outcome, for instance, is that legal action will be taken against B for geographic price discrimination.

This process can be conceived as a "game" in which the decision maker takes "turns" with a fictitious opponent ("Nature") representing the whole complex of personal and impersonal market forces bearing on his decisions. An illustrative series of moves is depicted in a tree diagram in Figure 1. In this example we have traced out two "rounds" of the game: first, B makes a move by choosing A_1; then Nature "chooses" (in a statistical sense) one of the states or outcomes; then B moves again by choosing an action from a new set of possibilities; and, finally, Nature moves again.

The game could, of course, be traced out beyond the second round through a third, a fourth, and so on; but if the analysis is ever to be completed and used, it must be cut off somewhere. Also, it is clear that as the analysis is carried further, the estimates of payoffs and probabilities become more and more speculative, so that the value of analyzing further rounds probably diminishes rapidly.

4. *Estimation of Payoffs.* The payoffs for each decision and each applicable outcome have been estimated by tracing through the effects on Baker B's sales, costs, and profits.

These payoffs are shown for the illustrative moves and countermoves in Figure 1. Consider, for example, the branch of the tree corresponding to the series A_1, S_{11}, A'_{111}, S'_{1111}. This represents a decision by B to refuse Blue's request; an invasion of B's market by Z; retaliation by B in Z's market; and legal action against B as a result of the retaliation. It is assumed that this chain of events results in Z attaining a fairly permanent niche in B's market.

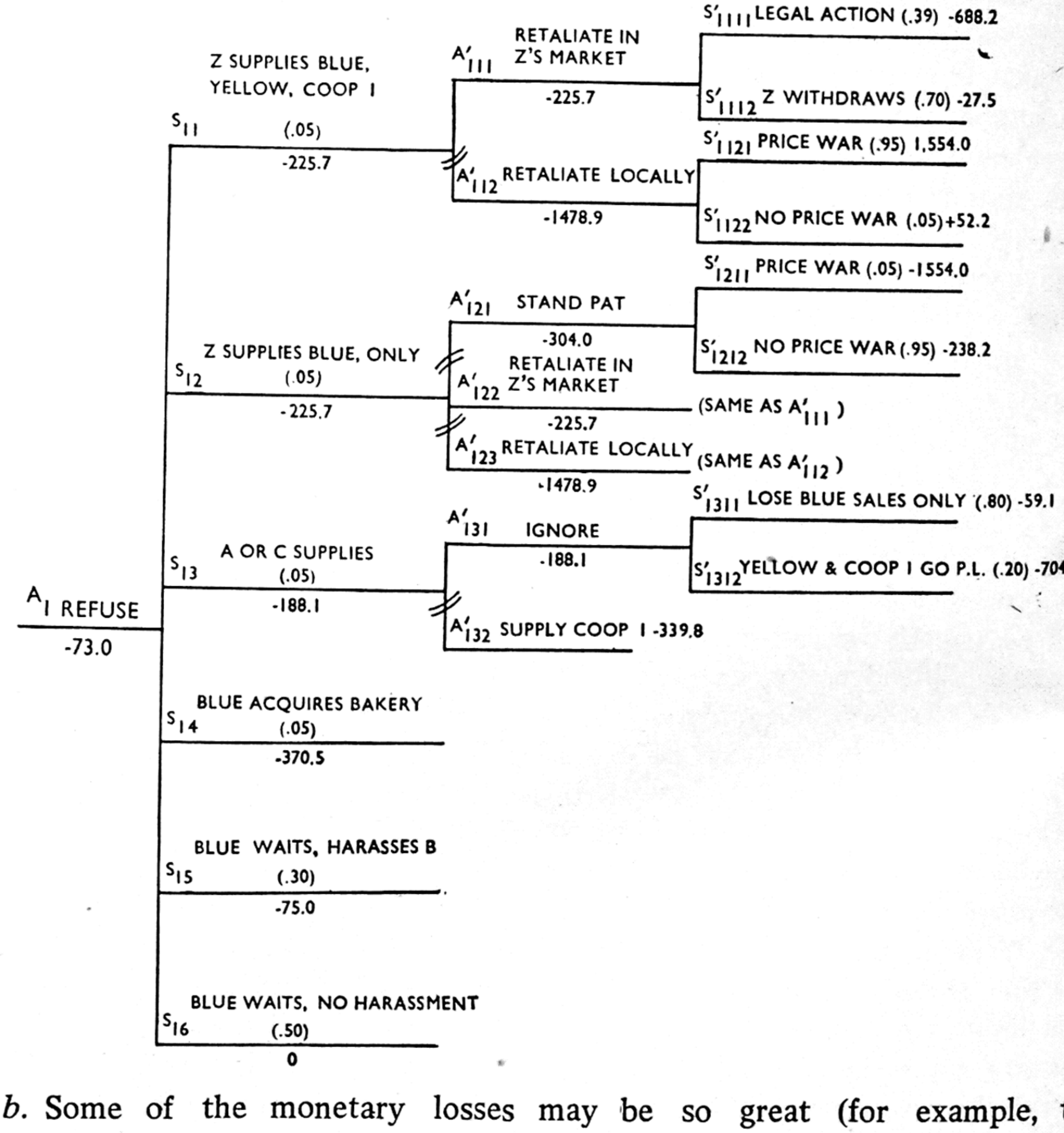
Based on past experience with private brand sales, it is estimated that Blue, Yellow, and Coop I will shift to at least 40% private brand volume, and that B will lose about this same percentage of his former sales to them. This implies a loss of about 52,000 units per week for B; and each unit represents a loss in gross contribution (price minus variable cost) of $.04412. Hence, B's revenue would be reduced by about $ 2,300 per week. When this weekly loss is converted to its present value, based on a yearly discount of 10% over a five-year period it is equivalent to an outright cash loss of $ 688,200.

In a similar manner, the payoffs for each possible chain of decisions and outcomes have been estimated and are shown in Figure 1. These estimates are used, together with the estimated probabilities for "Nature's" plays, to derive expected payoffs for each of B's possibilities. Of course, this method

of estimating payoffs is oversimplified. In practice, two other factors would have to be considered:

a. In addition to the direct effects on revenue and costs, some of the outcomes might involve nonmonetary consequences, such as the stigma and the inconveniences of litigation.

Figure 1 Illustrative Analysis of Decision Possibilities and Outcomes—A_1: B Refuses Blue's Request (Payoffs in Thousands of Dollars)



b. Some of the monetary losses may be so great (for example, the sequence A_1, S_{11}, A'_{112}, S'_{1121}) that they imply bankruptcy for B. In such a case, the loss is really greater in relation to less drastic outcomes than is implied by the payoff measures.

5. *Assessment of Probabilities.* Now it is necessary to assign probabilities to each outcome under each possible decision. As suggested previously, this is a very difficult task, but one that must be done at least implicitly in every decision of this kind. The assessments shown in Figure 1 are based

on the experience of one of the authors in studying the wholesale bakery market over a number of years, together with conversations with several leading bakery executives.

6. *Computation of Expected Payoff and Choice of Optimal Decision.* Given the individual payoffs and their probabilities, computation of the expected payoff for each decision possibility is a straightforward matter. This is illustrated in Figure 1.

In this analysis, it is necessary to start at the *end* of each chain of acts and outcomes (the extreme right in Figure 1) and work "backward" to the initial set of decision possibilities. Consider, first, the branch corresponding to A_1, S_{11}, A'_{111}. If B chooses A_1, then A'_{111}, there are two possible outcomes: S'_{1111} and S'_{1112}. The payoff under S'_{1111} is—$688,200 and under S'_{1112} it is—$27,500. The estimated probabilities are 0.30 and 0.70, respectively. Hence, the *expected* payoff at the "fork" representing A'_{111} is .30 (—$688,200) + .70 (−1,554,000)= −$225,700.

Similarly, the expected payoff for A'_{112} is—$1,478,900. Obviously A'_{111} is preferred to A'_{112}. Hence, in Figure 1 the branch corresponding to A'_{112} has been blocked off; it would never be followed if A'_{111} were available.

It follows that the expected payoff for S_{11} is—$225,700, the "better" of the two second-round decision possibilities available to B. In similar fashion, the payoffs for S_{12}, S_{13}, and so on have been estimated and are shown in Figure 1.

Now the expected payoff for the initial decision Alternative A_1, can be computed: it is

$$.05\ (-\$\,225{,}700 + .05\ (-\$\,225{,}700) + \ldots + .50\ (0) = -\$\,73{,}000$$

The same procedure has also been followed for A_2, A_3, A_4, and A_5; and the results are summarized in Figure 2. In this diagram the second "round" has been omitted and only the initial choices by B and "Nature" are shown. The figures were derived, however, by an analysis of the second-round payoffs and probabilities as illustrated for A_1 in Figure 1.

The analysis shown in Figure 2 suggests clearly that the optimal act for Baker B is A_5, the price and service differential system. This does not, of course, imply that this policy is optimal for all wholesale bakers, since it reflects the specific market conditions, cost structure, and payoff probability estimates of Baker B which may not be valid in another context.

Examination of Figure 2 also sheds some light on the market behavior of wholesale bakers during the post-war period. The most common response, of course, has been "A_1" a refusal to produce private brands or to offer acceptable alternatives. While this response has been generally unsuccessful, and wholesale bakers have lost market position, it does have the merit that it avoids any of the possibly disastrous consequences of A_3 and A_4.

Figure 2 Summary of First Round of Decision Possibilities, Outcomes, and Payoffs for Wholesale Bakery Private Label Decision (Payoffs in Thousands of Dollars)

A_1 IGNORE OR REFUSE -73.0

A_2 COUNTER OFFER -265.2

S_{21} Z SUPPLIES BLUE AND OTHERS (.02)	-225.7
S_{22} Z SUPPLIES BLUE ONLY (.03)	-225.7
S_{23} A OR C SUPPLIES BLUE (.01)	-188.1
S_{24} BLUE ACQUIRES BAKERY (.01)	-370.5
S_{25} BLUE WAITS, HARASSES B (.01)	-75.0
S_{26} BLUE WAITS (.02)	0
S_{27} BLUE ACCEPTS A AND C FOLLOW SUIT (.90)	-275.1

A_3 REDUCE PRICE BY .02 -1337.0

S_{11} Z SUPPLIES BLUE AND OTHERS (.05)	-225.7
S_{12} Z SUPPLIES BLUE ONLY (.05)	-225.7
S_{13} A OR C SUPPLIES BLUE (.05)	-188.1
S_{14} BLUE ACQUIRES BAKERY (.05)	-370.5
S_{15} BLUE WAITS, HARASSES B (.30)	-75.0
S_{16} BLUE WAITS (.50)	0

S_{31} Z SUPPLIES BLUE AND OTHERS (.03)	-225.7
S_{32} Z SUPPLIES BLUE ONLY (.04)	-225.7
S_{33} A OR C SUPPLIES BLUE (.02)	-188.1
S_{34} BLUE ACQUIRES BAKERY (.01)	-370.5
S_{35} BLUE ACCEPTS, A AND C DO NOT MEET (.05)	-458.8
S_{36} BLUE ACCEPTS, A AND C MEET, B RETAINS ADVAN. (.10)	-1249.2
S_{37} BLUE ACCEPTS, A AND C MEET, RETURN TO ORIGINAL SHARE (.75)	-1554

A_4 ACCEDE -260.7

S_{41} BLUE ACCEPTS, A AND C OFFER SECONDARY (.70)	-22.2
S_{42} BLUE ACCEPTS, A AND C REDUCE PRICES (.10)	-1442.7
S_{43} BLUE ACCEPTS, A AND C SUPPLY COOP I AND YELLOW (.20)	-504.3

A_5 PRICE DIFFERENTIAL SYSTEM+125.2

S_{51} Z SUPPLIES BLUE AND OTHERS (.05)	-225.7
S_{52} Z SUPPLIES BLUE ONLY (.05)	-225.7
S_{53} A OR C SUPPLIES BLUE (.05)	-188.1
S_{54} BLUE ACCEPTS, A AND C FOLLOW SUIT (.60)	0
S_{55} BLUE ACCEPTS, A AND C REDUCE PRICES (.25)	+828.5

The specter of price war has tended to dominate industry thinking. It is difficult to understand the reluctance to establish price and service differentials for large customers. It may be, of course, that bakery executives have feared price war as a possible outcome of this policy as well as of A_3 and A_4. The restraints imposed by the commission system of driver compensation (which limits the potential savings of limited service) have no doubt also played a part.

Values of Decision Theory Approach

Among the most important values of this formal approach to decision problems is that it serves to focus attention on the critical issues involved. In the present example, some of the key questions that naturally arise from the analysis are the following:

1. If a wholesale baker supplies chains with private brands, will other customers retaliate by partial or complete "boycotting"? Is this response permanent or transient? Surveys and limited tests markets can answer this.

2. Under what circumstances can a chain (or coop or voluntary chain) "afford" to acquire its own bakery plant through backward integration? If these conditions can be identified, we can assign more meaningful probability estimates to the outcome, "Blue gets own bakery plant", as well as better evaluations of its payoff. Cost analysis and careful assessment of the volume needs of Blue Chain may shed light on this.

3. If a bakery forestalls a request for a private brand by offering a secondary brand in its place, does this diminish the future probability of the chain renewing its request? If a secondary brand is offered for sale, what percentage of former regular brand buyers (ultimate consumers) will shift to the lower-priced brand? How does this depend on the amount and type of advertising and sales promotion, if at all?

4. If price differentials based on quantity and service are established, which customers will be able and willing to take advantage of them? What will the impact on average revenue per unit be?

5. How does a given decision affect possible future courses of action? For example, does the introduction of a secondary brand at one time make the decision to supply private brands in the future more or less feasible? Do secondary brands have any effect on the assumed "resentment" of independent retailers toward bakers who supply chains with private brands?

Although these questions cannot be answered now, at least partial answers to some of them could be obtained through properly designed research efforts. A major advantage of structuring a problem in formal terms is to indicate the directions that research efforts should take.

It is natural to ask whether or not formal decision theory is "practical." Is it feasible to carry out such analyses of marketing problems, and does the use of such an approach offer any advantages over current practice?

In conclusion, there are side benefits. The process need not be time-

consuming; however, by preventing a hurried selection of the most obvious conclusion, the way is paved to creative thinking in a manner that fosters dispassionate communication about the problem. There is a strong probability that through such an approach research activities necessary for solution of the problem will be more clearly defined and their application explicitly anticipated.

Finally, the principal advantage of formal decision theory over informal executive judgment is implied by the word "formal". The type of analysis illustrated here requires the decision maker to *formalize* his thinking regarding a problem—to structure his judgment and to "put it down in black and white". That this is likely to improve the quality of executive judgment seems self-evident. Whenever a decision must be made and its outcome is not known with certainty, some informal equivalent of the decision theory must be employed.

V/MAJOR MARKETING STRATEGIES

21/Product-line Policy

JOEL DEAN

Decisions regarding the composition of the firm's product-line are significant not only for the firm but also for the entire economy. No other single management activity influences a firm's prosperity as much as the planning and shaping of its product mix. This article discusses certain economic concepts which can be used by management to decide what product-line policy to adopt.

I. INTRODUCTION

A company's conscious competitive actions have three facets: (1) product policy, (2) promotional policy, and (3) pricing policy. Product policy commands not only managerial attention, because of rapid changes in technology and demand; it is also significant for the entire economy, since it is the mainspring of economic progress and hence an important test of a company's social contribution.[1]

The purpose of this article is to examine, from an economic standpoint, the managerial problems of product coverage in a multiple-product firm. We are concerned with only one phase of product policy, namely, product coverage —that is, decisions on what end products the company will make and sell. Product improvement—the other phase of product policy—is not examined here. We shall attempt to sketch a framework for a policy approach to product coverage, that is, a set of standing answers to recurring product proposals.

The term "product" in this discussion will mean an end product offered for sale by the firm. Intermediate products produced as a consequence of verticle integration and parts and components purchased for inclusion in final products are excluded from this analysis.

[1] Although most modern firms make several products, economic theory has been developed on the premise that each firm makes only one product. The reasons for such an inadequate premise are to be found partly in the historical origins of theory and partly in the simplicity of theoretical analysis when it is confined to single-product output. Determination of the costs of individual products in a multiple-product company is both conceptually and empirically difficult. The neglect of these problems may also be due to the notion that management views each product as a separate business activity with the characteristics of single-product firm, but this approach has little theoretical and no practical support.

SOURCE : From *Journal of Business*, University of Chicago Press, vol. 23, October, 1950, pp. 248-258. Joel Dean : Professor of Business Economics, Columbia University.

The term "product-line" will be used here in a broad sense to include all the products manufactured by the firm. The term can be used in a narrower sense to refer to groups of products that are related either on the marketing side as being complements or substitutes or on the production side as being made from the same materials or by similar processes.

In a dynamic economy, where product monopolies are characteristically transient and where product development is a major facet of competitive rivalry, economically sound decisions on additions to the company's product coverage are obviously of great importance. Three important problems encountered by top management in formulating policy on adding new products are: (1) scouting out potential product additions, (2) appraising these proposals and making the product selection, and (3) launching each new product venture in a way that gives it a maximum chance of success.

The first, development of a flow of promising proposals for candidate additions to the company's product-line, is fundamental to sound product additions. For many companies product research is the main instrument. Others license new product inventions or buy them directly from independent inventors and corporate research departments or through professional "product-finders". Product proposals also come from customers, from the company's marketing staff, from small companies that want to sell out, and from independent inventors.

The third top management problem—launching the new venture—involves questions of refinement of the product design, selection of market targets, methods of distribution, pricing the new product, and making capital expenditures for production and marketing facilities.

Top management's second problem—the appraisal of candidate product additions—is the central concern of this article. Even in large, well-managed companies the methods used in selecting product additions leave much to be desired. A survey of the experience of two hundred leading packaged-goods manufacturers in the post-war development of new products revealed that only 20 per cent of the products put on the market actually turned out to be money-makers.[2] For most of these products, expectations had been far too optimistic. This dismal experience showed that product innovation required more careful selection and more deliberate planning than these companies had anticipated. A rich mixture of market research, product testing, adequate financial resources, and persistence was needed.

II. POLICY PROPOSALS

Management needs a rational routine for this appraisal in the form of a set of criteria to guide its analysis. In this section we consider what questions

[2] "The Introduction of New Products," a survey made by Ross Federal Research Corporation, for Peter Hilton, Inc.

management should ask and what criteria it should establish. The discussion has three parts: (*a*) standards of prospective profits from the candidate product; (*b*) considerations of product-line strategy; and (*c*) specific criteria of acceptability of new products.

(*a*) *Standards of Profitability*

Usually the most important question about a new product is its prospective profitability. If the sole objective of the enterprise were to maximize profits in a strict sense, all considerations affecting additions to the product-line could be subsumed under profitability; to a degree, the nonprofit considerations are merely indicators of long-run profit prospects. Yet, business motivations are more complex than has been assumed in economic theory. They encompass objectives such as external corporate life, market share, volume growth, comfortable cash reserves, assured tenure for management, and pleasant employee relationships. These purposes can be forced into a concept of long-range profit maximization; but, when this is done, the concept evaporates for analytical applications.

Prospective profitability, in the narrow, cash-return sense, is nevertheless the key consideration. Candidates for addition to the product-line should be ranked in a priority ladder according to profitability and should be selected from the top down, except in unusual strategic circumstances. But a profitability ladder raises four questions: (1) What concept of profits is relevant? (2) What form of profit standard should be used? (3) How should profit prospects be measured? (4) What rejection level should be established?

1. Profit Concepts. The relevant concept of profits for product-line additions is not always clear; it depends on circumstances. The basic choice lies between some notion of incremental profits and the concept of net profits over full cost. Incremental profits refer to the difference in the firm's profits with and without the addition of the product in question. It thus credits the new product with the whole increase in profitability of existing facilities that its introduction produces. In contrast, the use of net profits means that some of the fixed overheads are loaded onto the new product, and cost burdens of existing products are correspondingly lightened.

If they are extended over a long enough period to encompass the probable-life-cycle of the new addition, incremental profits are the relevant concept. Sometimes product additions are so short-lived that incremental profits are the difference between price and short-run marginal cost. Examples are subcontracting work, war work, and production of specially designed products in a job shop. In this special case the usual strategic considerations that enter into product-line additions are rather unimportant. But here, as in a long-range setting, incremental profits must be measured against the profits that could come from the best alternative use of money, time, and facilities. If the alternative is idleness then presumably any incremental profits will justify the addition of the product. If, as is more

common, the alternative is to use resources on some other product, the alternatives return sets the standard of minimum incremental profits.

For more durable additions to the product-line, short-run marginal cost is not the correct concept for estimating the added profitability of the new product. The adoption of a new product carries with it explicitly or tacitly the commitment to stay with the new venture at least until it has had a fair trial, and possibly longer. Additions to common costs that are often unforeseen at the time of the introduction of the new product are likely to occur, so that the businessman's rule of thumb of loading on the new product its full share of common overhead is often the most appropriate method after all.[3]

2. *Form of Profit Standard.* In order to compare the profitability of alternative uses of facilities, profit standards must be stated in a form that is relevant for ranking them. What form should a profit estimate take—unit margins, return on investment, aggregate dollar profits? The most general form is the total dollar income over the whole life of the product minus the total outlay to produce it. But in cases where the new product is a permanent addition, it may be easier to measure the profit return per unit of some fixed, bottleneck factor of production absorbed by the new product. Such a bottleneck factor might be executive time, machine time, or materials (e.g., steel during the post-war period of shortage and private rationing by producers). In the most usual case it is strictly limited funds for capital outlay on the new product (e.g., those available from retained earnings). In this case, return on incremental investment is the best measure. This form of profit measures the income-producing efficiency of the product relative to alternative uses.[4]

3. *Measuring Profit Prospects.* The major problem in estimating profitability is to make decent projections of revenues and costs. Ideally, these should cover the expected life-span of the product; in practice, three to five years is the limit of visibility. Forecasts of demand and costs are extremely speculative for new products; indeed, they are much more so than many firms realize. In explaining the failure of new products, the two hundred companies mentioned at the beginning of this section put particular emphasis on (*a*) inadequate market research and (*b*) underestimated selling-cost requirements.

The hardest cost estimates to make are estimates of development and selling expenses. Pressure to get the product onto the market may cut

[3] The experience of many business organizations is that new products added to mop up overhead actually produce new overheads and, in addition, incur untraceable costs, such as added drain on executive time and energy. These costs make their incremental profits quite different from those indicated by short-run marginal cost estimates.

[4] In the extreme case, where all resources are idle and there is just one candidate product which itself cannot absorb any resource completely, the rate-of-return form is inapplicable, since efficiency is not a consideration in production.

short the research that is needed to work all the bugs out of the product. This can be an expensive short cut, since the bad impressions made on the first venturesome customers may cause delays and perhaps foreclose market acceptance.

Products vary widely in forecastability; for some products no refined calculations are possible at all. Consequently, any use of profit standards for appraising the candidate product is precluded. Going into some products is like making a bet on the horses. Decisions then must rest more completely on grand strategy and on criteria of acceptance like those discussed later in this section.

4. Level of Profit Standards. To determine how large an incremental profit should be to justify the addition of the product to the line requires some standard of adequate return. Ideally, the market cost of new capital should always be the criterion, but it is not widely used. One alternative standard is supplied by the competition of rival product additions and rival internal investments of all sorts for the company's limited resources. Under such a plan, a candidate product will be rejected unless it promises a rate of return that exceeds the next best use for funds. Another standard (where resources are not limited) is in terms of some historical return on investment. Thus some companies require a minimum return equal to the company's ten-year average; others develop an arbitrary standard of adequate profits of this type that is not specifically related to anything. For example, a large automobile manufacturer, for unknown reasons, has adopted 30 per cent before taxes as a standard. Sometimes the standard is formulated in terms of unit net profit margins at some normal output rate. One company, for example, in the drug field, has a minimum 50 per cent margin. Presumably, such a high standard reflects competition of highly profitable alternative products; thus it is likely to be an opportunity cost standard.

5. Summary. The pivotal test for the addition of a new product is its profitability. If profit maximization were the sole goal of the enterprise, this test would encompass all others, but pluralistic motivation makes the other goals relevant as well. The relevant concept of profits is incremental returns over the appropriate time period, that is, what addition the product makes to enterprise profits over its life-span. The profit prospects must be expressed in a form that allows significant comparison with alternative uses of labor, plant, and time. It is common practice to establish some standard of minimum acceptable earnings, but this floor should really be determined by profitability of alternative opportunities, that is, by external conditions.

(*b*) *Product Strategy*

Supplementing tests of profit prospects are general considerations of strategy. These are to a degree composed of the specific acceptance criteria discussed in the next subsection.

Multiple-product "strategy" is a shorthand name for the company's long-

run purposes in product diversity. Although strategy is usually focused on profits in the long run and is confined by economic limitations, it is also affected by the technical abilities and personal preferences of management. It is a position consciously taken to simplify decision-making at crucial points. Presumably, under an enterprise system, the purpose of strategy is to make money, in the long run at least. Yet, as we have seen, this is not the whole story. In a going concern, product-line strategy usually has historical roots—sometimes in the company's original purposes but often later in a basic merger or an empire-builder's dream.

Companies with no clear product-line strategy have been conspicuously profitable, and many mergers have grown in spite of the seeming lack of kinship among the products of the merging companies. Other companies say that they have a product-line policy, although they are simply rationalizing a product that grew without pattern. Yet considerable evidence indicates that many well-managed, mature, multiproduct enterprises do have a logical product-line that serves as a real guide to action, as is demonstrated by both product surgery and acquisitions that are consonant with announced product policies.

A few examples will show the general character of product-line strategy. A leading electrical manufacturer conceives of its broad product-line policy as a beneficent circle. Its apparatus line generates and transmits electricity; its industrial products and its lamps and home appliances build up the demand for power and help lower the public utility companies' costs; as a result, the price of current is reduced and the demand for its industrial apparatus to produce more current is expanded.

A large producer of insulating materials views its product-line strategy in terms of a complete coverage of the full thermal range, with adequate alternatives throughout the range. The company wants to be considered a specialist in insulation, able to deal with any insulation problem impartially. It assumes that if it sells various alternative devices itself, customers will rely on it to select the most effective technique or material for their particular uses. The product-line is an implement for selling a complete insulation service.

Product-lines are sometimes conceived in terms of a framework of know-how. Thus one company views its know-how as essentially paper-making techniques. The pivotal machine converts wet pulp into dry, flat products. The company refuses to add products that depart significantly from this framework of know-how (e.g., products that involve intricate metal stamping or assembly operations). A leading automobile manufacturer looks upon its product-line as essentially motive-power units and incidentally produces the bodies and wheels that use the power. Chemical companies sometimes conceive their product-line boundaries in terms of the equipment and processes that have been peculiar to the chemical industry. But the constant stream of discoveries in by-products and methods has recently made these

borders quite elastic. Chemical companies have been led toward textile and paper processes, and oil companies into chemical industry research and processes.

Sometimes product-line strategy is strictly defensive. One of the building material companies, for example, has in the last twenty years been guided in its product acquisitions by the broad line of building materials offered by the two giants in the industry, whose coverage of building materials was formerly far more comprehensive than the company's own. This policy was in part based on the belief that basic distribution economies were possible in selling a broad and related line of products all handled by the building materials dealer.

The outer limits of a product-line (like the outer limits of an industry) are typically framed in terms of common raw materials, production processes, distribution channels, or final uses. These criteria—which are alternative and occasionally contradictory—are often less fundamental for determining product-line strategy than are the competitive relationships in terms of tactics for increasing profits and rivals' reactions to these tactics. Thus considerations of product-line strategy reflect technical as well as competitive limitations on management. They thus become the groundwork for that nebulous but real part of the company—"grand strategy."

(c) *Acceptance Criteria for New Products*

Because estimates of probable profits from new products have wide margins of error and cannot be projected far into the future, and because maximizing financial profits is not the only strategic objective of the company, supplemental standards of acceptability for new products are needed. In theory, these standards are not so fundamental as are direct estimates of profits. They rest on empirical characteristics of the firm. Nevertheless, since they are frequently easier to appraise than are profitability standards, they have much value in themselves. A candidate product can be compared with the existing produuct-line in terms of :

1. Interrelation of demand characteristics with the existing product-line
2. Use of the company's distinctive know-how
3. Use made of common production facilities
4. Use of common distribution channels
5. Use of common raw materials
6. Benefits to existing products

These criteria can supplement estimates of the direct profits from adding the product.

1. Interrelation of Demand Characteristics. An important factor in considering new products for the product-line is the relation of their demand characteristics to the characteristics of the existing group of products. Since the right combination of products in the product-line has powerful promo-

tional value, this interrelation is a primary criterion of acceptable product additions.

What are the kinds of demand relationships between the candidate product and the existing product that will improve its chances of success? Two kinds may be distinguished: the new product may be a substitute, or it may be a complement. Rigorously speaking, the distinction may be framed in terms of cross-elasticity of demand. The candidate product is a substitute if its sales fall when the price of an existing product is reduced (other things equal). If its sales gain, then it is a complement.

There are various kinds of substitute relationships in demand that favor admission of the candidate product. Sometimes the new product, by extending the range of coverage, acts as a hedge against uncertainties and shifts in consumer demand. The garment industry provides many examples of product diversity to reduce risks that stem from buyers' ignorance and style change. Addition of paper, glass, and plastic containers to the product-line of manufacturers of tin cans is probably partly a hedge against a revolution in container materials. Another type has to do with innovations. The acceptance of a new product which makes obsolete the company's existing product is justifiable, primarily because obsolescence is inevitable. The present would be displaced by new ones in any event—by competitors, if not by the company itself.

Complementarity is the other general kind of demand relationship that is important in testing product additions. Typically, the question is whether the new product can fit into the pattern of demand so that the company's name established by the present products can help to sell the new one. In a sense, this condition shows excess capacity in advertising. Occasionally, another type of complementarity exists when a spectacular new product adds prestige to the existing line. Closely related to the promotional assistance of a new product, and more fundamental and common in most business, is the ability of a new product to make the present product-line either operate or sell better. Thus the addition of fine-grain film to the product-line of a camera manufacturer who sold high-speed lenses brought out the full usefulness of the high-speed lens.[5]

A second demand characteristic is the entity of the product group as a whole. The promotional advantages of a full line often make the whole greater than the sum of its parts. The tactical advantage of a full line of sizes, grades, and supplementary products in getting good dealers and in merchandising high-margin specialities makes this kind of interrelationship of demand a commonly used basis for product-line policy. Some would go

[5] Accessories and extras, particularly in the early days of the automobile industry, served both as promotional balloons and as functional improvements. For example, the roof of the 1905 Stanley Steamer was an extra, and the self-starter remained an extra for most cars for years.

so far as to deny the validity of analyzing sales performance for any individual member of a product group, because each member contributes to the sales and profits of the other members and because the economic unit of merchandising activities is the whole group of products.

A "full line" may be defined as the broadest coverage of related products successfully sold by a rival manufacturer. This concept brings out the defensive nature of a full line policy. By carrying a broad product-line (relative to rivals), a manufacturer has advantages in getting good dealers and in efficiently aiding in their merchandising activities by training, co-operative advertising, and "point-of-sale" materials. Consequently, whether the candidate product is needed to match a competitor's breadth of line is an important criterion.

2. *Distinctive Know-how.* Sometimes the determining consideration in making product-line decisions is that new products must make use of the company's distinctive and almost personal source of differential advantage. An example is the M.W. Kellogg Company, which sells engineering skill in the design of giant processing equipment for chemical and petroleum industries. Fabrication and construction are carried on but are subsidiary to the principal product—technical pioneering skill. One of the company's product-line specifications is that products must fully utilize this asset and must be suitable vehicles for the sale of this service.

One of the large electrical manufacturers uses this same test in an indirect fashion. Only products that are highly engineered and that call for intricate manufacture and assembly methods are regarded as suitable, partly because the market that is developed for such products will be protected from easy invasion by these know-how requirements.

Sometimes the distinctive asset is research power. It is a fairly conscious policy of one of the large chemical companies to choose only those new products that have been developed by its product research organization and that are distinctive enough in both chemical and manufacturing requirements to be protected for some time to come. The counterpart of this policy is to abandon products when they have degenerated to the status of commonly produced commodities. The company advances to new monopoly positions as fast as economic progress wears down the walls of the old.

For many companies, research capacity and experience is the major phase of its distinctive know-how. In such a case an admissibility standard should be framed in terms of whether the candidate product is susceptible to the kind of improvement that will put the research capacity of the company to its highest and noblest use.

Another test that may fall into this category is the volume potential test. Many large companies scorn product additions that would meet other tests but that do not promise a sufficiently large volume of sales to use the powers of a large company fully or to overcome its disadvantages of inflexibility. They

look upon small-volume new products as requiring an organization that is quicker on its feet than a large company can expect to be.[6]

3. Common Production Facilities. The requirement that the candidate product use existing or highly similar production facilities is a widely used test of admissibility. When applied strictly to the use of existing facilities, it depends on economies of mopping up excess capacity, which are short-lived. Hence, to this extent, the test has perils of using short-run incremental cost when long-run increments are involved.

When the test is framed in terms of requiring similar production facilities, it does not run these risks, since it is not then short-run in concept. In this form it bears a close resemblance to the test of distinctive know-how. Similar production facilities are, in large part, a monopoly return on specialized knowledge and concentrated effort.

Most product additions fall somewhere between the extremes of idle capacity and familiar production methods. They normally make use of unused capacity of some facilities, at least common overheads, but often require additional facilities that, though different, have much in common with those for existing products.

4. Common Distribution Channels. Another popular test of the admissibility of a new product is that it must permit effective marketing through the same distribution facilities used by the company's existing products. In economic terms this criterion is sometimes used to mop up unused capacity. More often, the economies result from savings of specialization or of large scale.[7]

The test is most applicable when the company has a single or a clearly dominant distribution mechanism. A company whose only channel is direct sales to retail stationers might require that a new product be the kind that could be handled by stationery stores and sold by the sales force that serves them. Manufacturers' post-war experience with new products travelling through unfamiliar distribution channels and requiring a different sales organization was, on the whole, quite disappointing.

Even though a product meets this distribution test, there are limits to the number and variety of products that can be efficiently sold by a salesman if he is to be more than a mere order-taker.

Sometimes the selling power rests on no more than a blanket brand name. Products that can be sold compatibly under a well-known company label are sometimes added even though they are sold through different channels and require a specialized sales force.

[6] A systematic search for products developed by large research organizations whose volume prospects were too small for the developing company to commercialize was made recently by an outfit which has shown considerable success in developing fairly diverse small businesses. Professional "product-finders" also prospect here for their 5 per cents.

[7] A special case of distribution mechanism economies are the savings of carload mixed-shipment rates for products that come under common freight classifications. This economy has been an important one in inducing building materials manufacturers to broaden their product lines.

In addition to savings of specialization and scale, established marketing organizations of salesmen and distributors constitute a source of monopoly advantage. Frequently the dealer organization is the company's most valuable and hardest to duplicate asset. Development of adequate distribution is sometimes a major barrier to entry. Hence the selection of products that will most happily utilize this facet of monopoly power is an important element in successful product-line development.[8]

5. *Common Raw Materials.* Many companies look for product additions that use the same basic raw material or its by-products. The rubber industry's product-lines exemplify the application of this test. A company with extensive asbestos mining properties has directed its product research toward developing new products that will use not only asbestos but also the short fibers and other wastes that are left after the regular asbestos products have been manufactured.

The economic rationale for this test rests on two points: First, the basic source of raw material is controlled by the company (e.g., asbestos mines or bauxite deposits); the addition of products that use the common raw material may help develop the market for that material. They can also put the company in a position to exploit differentials between the prices of raw materials and finished products. Second, important savings result from intimate familiarity with intricate processing methods. For this reason the petroleum companies rely heavily upon the common-material test.

6. *Benefits to Present Product-Line.* The foregoing tests depend largely on the contributions that existing products and facilities can make to candidate new products. This "benefits" test, in contrast, asks what the new product can offer to existing products. Contributions through interrelationship to demand have already been mentioned; contributions through experience in new types of production methods which have applicability to old products have received much attention as a result of the peacetime lessons of war production. Similarly, post-war "defense" research and pilot production supported by the military organization illustrate this educational contribution of some new products. Private ventures into new products simply for educational benefits in producing old products are long bets which few companies can take. Old products are a generic class subject to continual evolution. The educational benefits from an added product, either in research, production methods, or even demand interdependence, apply not only to the present products. Often, more importantly, these benefits apply to the projected path of development of these existing products. Remington Rand's recent acquisition of a company making a new type of "electronic brain" computing machine may illustrate this kind of contribution along the paths of projected development of existing Remington

[8] The question is not whether the new product can be distributed at all through the company's marketing organization but rather whether it can be distributed economically, both as compared with alternative candidate products, which might otherwise use these limited distribution facilities, and as compared with selling the product to other distributing organizations, while itself manufacturing it.

equipment.

(*d*) *Dropping Old Products*

The problem of determining what products should be dropped is, in general, the converse of the problem of selecting products for additions. There are, nevertheless, certain differences.

Broadly speaking, when a product's profit or sales behavior is absolutely or relatively unsatisfactory, there are four choices: (1) improve the present operation and keep the product; (2) keep on making it but sell it in bulk for others to market; (3) keep on selling it but buy it from others who can produce it more advantageously; and (4) stop manufacturing it and stop selling it.

The first three are outside our present discussion. The criteria for eliminating a product altogether are substantially the opposite of those for product additions. One approach, therefore, is to screen products that look sick enough to be candidates for deletion through the same kinds of suitability tests discussed above. Another approach is to appraise the product in terms of profits and sales results, such as whether it is slipping in market share, whether it accounts for a trifling percentage of the company's sales, and whether its net or incremental profits are satisfactory as compared with other products or with products that might be produced if it were eliminated. A product that fails the suitability tests and also shows up badly in profit results is more clearly a candidate for total elimination than one that is inherently suitable but temporarily sick.

In applying the profit tests, a distinction must be made between the long-run and the short-run profits. Products that show comparatively low or negative net profits may still have incremental profits, that is, they may make contributions to general overheads that would not be made if the product were dropped. This sort of short-run consideration can lead to serious errors if it is projected too far into the future. Presumably, the growth of more profitable products should soak up the excess capacity that produces these incremental profits, and the continual stream of candidate products may in the long run produce a greater contribution to overheads than the old product that is retained because of its incremental showing.

The main economic difference between dropping and adding a product is, of course, sunk costs. Deletions that are decided upon solely on the basis of net profit, with no consideration given to the fact that costs are sunk, can lead to short-run losses. But, again, it may be that this is a more valid criterion than it appears to the economist, because executive time squandered on the squeaky wheel and on passed-up opportunities to substitute new and better products over-balances the sunk-cost element.

III. SUMMARY

1. Product-line composition is a major facet of modern competition, and a

company's achievements in new and improved products are an important test of its social contribution.

2. An underlying reason for adding a new product to the line is that it utilizes excess capacity. Broadly conceived, excess capacity occurs when it would cost the multiple-product firm less to make and sell the new product than it would cost a new company set up to produce only that product. Vertical integration and research also promote multiple-product lines.

3. Prospective profitability, in the narrow, cash-return sense, is a key consideration in the selection of product-line additions. The relevant concept is incremental profits over the probable life-cycle of the candidate product. Some standard of adequate incremental return is needed for this profitability test. Ideally, it should be the firm's market cost of new capital with allowance for special risks. In practice, different standards are used, including some average of the company's past return, return from the best alternative investment, or some arbitrary profits goal.

4. Product-line strategy is a semi-independent consideration, though presumably the purpose of strategy is to make money in the long run. Strategic considerations reflect personal, technical, and competitive limitations on the range of product diversity. This policy short cut may center on putting the firm's distinctive strength to its highest and noblest use.

5. How the candidate product's demand dovetails with that of existing products is an important selection criterion. Complementary or substitute relationships or the tactical advantages of a full line underlie the more conventional test of common distribution channels.

6. A candidate product which is made from common raw materials, uses existing production facilities, and/or can be effectively sold through the same sales organization is likely to mop up excess capacity and use the company's distinctive know-how.

7. The problem of deciding on what products to drop is the converse of adding products, except that long-run cost functions are not reversible and that specialized capital is not perfectly mobile. Hence the possibility of salvaging product-line mistakes by partial retreat should be explored before considering total elimination.

22 / *A Method For Making Product-Combination Decisions*

ROBERT K. JAEDICKE

An important part of any product policy is a set of criteria governing product decisions. First, there are the criteria which reflect company capabilities. Second, the alternative investment opportunities available to the company must be considered. This article describes and illustrates the value of using the incremental profit concept in evaluating product ideas.

The manager of any business firm faces at least three important classes of decisions. They are (1) how to produce; (2) how much to produce; and if more than one product is involved, (3) what combination of products to produce. The first class of decisions involves the problem of choosing that combination of men and equipment which will produce a given quantity of output at the least cost. The second class of decisions has to do with the choice of the most profitable quantity of output to produce and sell. Inherent in the output decision is the third class of decisions, what combination of products should be produced and sold.

Product-combination decisions constitute a very broad and important group. Such decisions range from whether to make or to buy a part or subassembly to the best allocation of floor space among departments of a department store. Yet, as important as this type of decision is to the firm manager, if he were to turn to existing accounting techniques and to accounting literature for a complete and definitive answer, he would probably be quite disappointed. The purpose of this article is to set forth a sound approach to product-combination problems which might be used as a basis for managerial decision making.

THE CONTRIBUTION-MARGIN APPROACH

The contribution-margin of a unit of product is defined as the excess of the selling price over the variable costs of producing and selling the product. Variable costs are those costs which will change in total as a result of changes in output. However, the variable cost *per unit* is assumed by the accountant to be constant. Hence, the contribution margin, with a given selling price, is also constant per unit of product. The total

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contribution margin for any accounting period, however, depends on the number of units sold. The assumption that the variable costs and the contribution margin are constant per unit is probably valid as long as the firm produces within the normal operating range. Once the normal operating range is exceeded, the variable costs per unit may increase as the number of units increases. This same qualification also applies to the unit selling price. If the number of units sold is to be increased by any significant amount, the selling price per unit will undoubtedly have to be decreased.

The contribution margin concept is an attempt to focus the attention of management on variable costs rather than full costs. The contention is that the contribution margin per unit is more significant for decision making than the net profit per unit. The latter would be computed by deducting fixed costs from the contribution margin. This approach would be used primarily for internal profit reporting: for example, to show performance by department or other subdivisions of the company. The form of the aggregate income statement sent to the stock-holders and creditors need not be affected by the contribution-margin concept.

If internal reports are submitted to management on the conventional or full-cost basis, the income statement would appear as shown in Figure 1. This example represents a hypothetical department store with three departments. The Cost of Goods Sold consists of the purchase price of the goods sold together with adjustments for freight costs, etc. Assume that Selling Expenses represent sales commissions, which are 5% of sales, and Administrative Expenses are the rental charge on the building. The rent, although fixed, is allocated to the departments as a percentage of the sales volume of each department.

FIGURE 1

Income Statement By Departments

For The Year 195X

	Totals	*Department 1*	*Department 2*	*Department 3*
Sales	$100,000	$ 50,000	$30,000	$20,000
Cost of Goods Sold	80,000	45,000	25,000	10,000
Gross Margin	$ 20,000	$ 5,000	$ 5,000	$10,000
Other Expenses :				
Selling Expenses	$ 5,000	$ 2,500	$ 1,500	$ 1,000
Administrative Expenses	6,000	3,000	1,800	1,200
Total Other Expenses	$ 11,000	$ 5,500	$ 3,300	$ 2,200
Net Profit or Loss	$ 9,000	$ (500)	$ 1,700	$ 7,800

The conventional income statement by departments, as given in Figure 1, has serious limitations if the data are to be used in decision making. The

Gross Margin, for example, cannot be used as a measure of departmental profitability because there may be variable expenses of operating a department other than the cost of the goods sold. Also, in a manufacturing firm, some fixed costs may be included in Cost of Goods Sold. In a retailing operation, this criticism may not apply. The net profit has limited usefulness because of the allocation of fixed expenses to the departments. Referring to Figure 1, it may be unwise to eliminate Department 1, which operates at a $500 loss, because the over-all profit of the store will be decreased if the building rent is a fixed cost.

Limitations in the conventional income statement, such as those mentioned above, have set the stage for the contribution margin approach. This approach concentrates the attention of management on sales, variable costs, and the contribution margin rather than emphasizing the departmental gross margin and net profit. A contribution margin income statement by departments using the same data as given above is shown in Figure 2.

The justification for this type of report is that in planning decisions regarding the object of costing (in this example the object of costing is the department) the pertinent cost is the variable cost rather than the total cost. Fixed cost, therefore, is not distributed to the departments but is reported as a total for the entire operation. In a question regarding the proper combination of departments, the contribution margin rather than the net profit of each department is considered to be the important figure. *Thus, each department is judged by its ability to contribute a margin toward fixed cost and profit.* The major criticism of this presentation by most businessmen and accountants

FIGURE 2

Contribution Margin Income Statement By Departments

For The Year 195X

	Totals	*Department 1*	*Department 2*	*Department 3*
Sales	$100,000	$50,000	$30,000	$20,000
Variable Costs :				
Cost of Goods Sold	$ 80,000	$45,000	$25,000	$10,000
Selling Expenses	5,000	2,500	1,500	1,000
Total Variable Costs	$ 85,000	$47,500	$26,500	$11,000
Contribution Margin	$ 15,000	$ 2,500	$3,500	$ 9,000
Fixed Costs :				
Administrative Expenses	$ 6,000			
Net Profit	$ 9,000			

is that, in the long run, fixed costs must be covered and therefore deserve proper consideration. This criticism will be examined later in the article,

PROFIT-VOLUME ANALYSIS

The contribution margin approach, as outlined above, forms the basis for profit-volume analysis. This can best be described by discussing the profit-volume graph (Figure 3). As has been pointed out, the variable cost and the contribution margin per unit are assumed to be constant. The ratio of the contribution margin to the selling price is called the profit-volume ratio. This ratio, when expressed as a percentage and multiplied by the dollar sales, will give the total contribution margin at that particular level of sales.

In Figure 3, sales in dollars are plotted along the horizontal axis. The vertical axis is used to plot dollars of profit and loss and the fixed costs. Line Z represents the relationship between sales and profit when the fixed costs are $30 and the profit-volume ratio is 15%. The profit-volume ratio will be 15% if the unit of product sells for $1 and the variable costs of producing and selling the unit are 85 ¢ . With this set of data, the contribution margin per unit would be 15% (15/100).

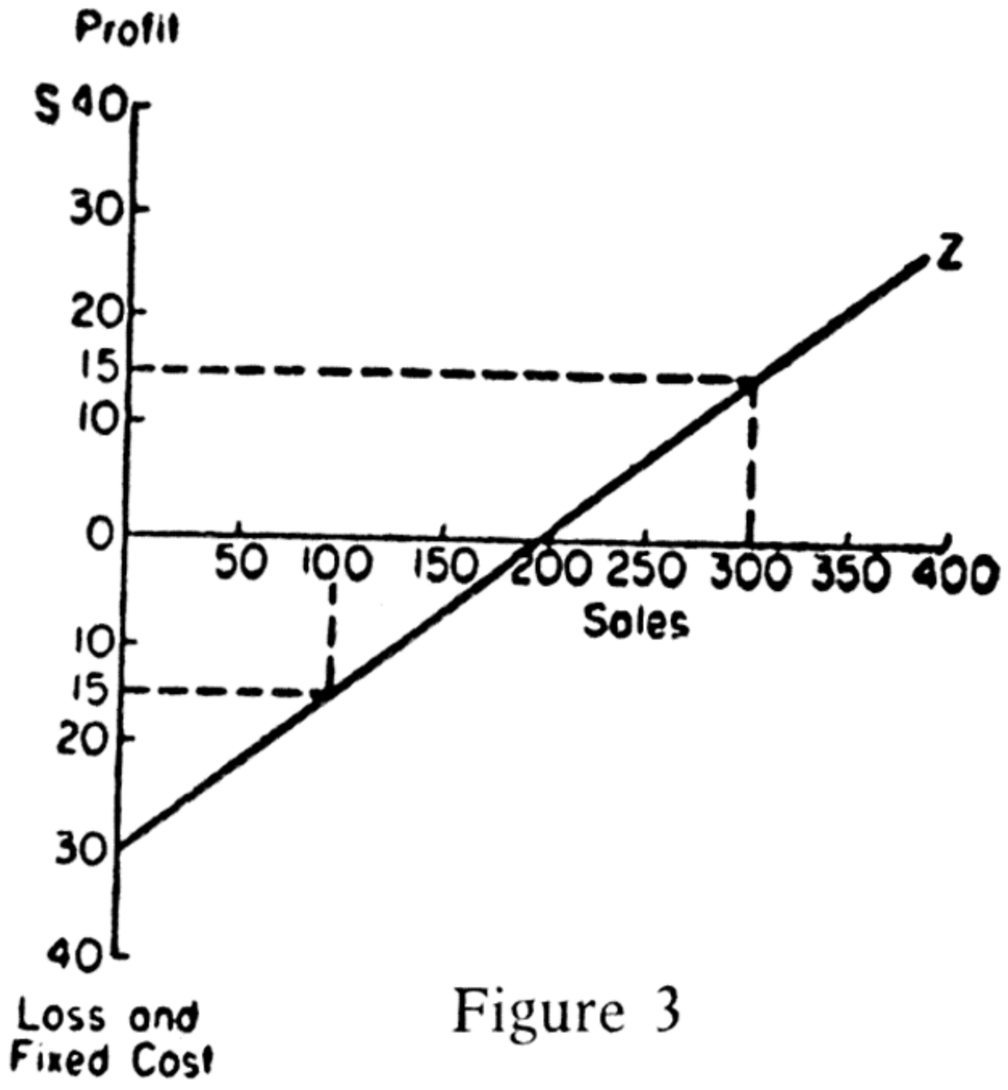


Figure 3

Profit and loss are read from the Y axis. For example, at sales of $300 the profit is $15; at sales of $100 the loss is $15; the loss at zero sales is $30, the amount of the fixed costs. The point at which line Z intersects the sales axis ($200) gives sales at the breakeven point: namely, the point of no profit or loss. Sales at the breakeven point can be computed by dividing the fixed costs by the profit-volume ratio. The explanation for this computation is as follows:

1. The profit-volume ratio gives the percentage of each sales dollar that can be used to cover fixed costs.
2. Breakeven sales give the level of sales at which fixed costs are covered: that is, the level of sales where the contribution margin is equal to the fixed costs.
3. Therefore, breakeven sales can be computed by dividing the fixed costs by the percentage of each sales dollar available to cover the fixed costs: namely, the profit-volume ratio.

ADVANTAGES OF PROFIT-VOLUME ANALYSIS

Profit-volume analysis has proved to be helpful in demonstrating the effects of a change in product-combinations. Therefore, it has been used primarily to report the effects of a change rather than to decide what the proper combi-

nation of products should be. The reporting advantages will be examined first, and the decision-making advantages will be discussed later.

Assume that a company sells two products, A and B, whose selling prices, variable costs, etc. are given below:

Product	*A*	*B*
Selling Price Per Unit	$10	$8
Variable Costs Per Unit	$ 7	$3
Contribution Margin Per Unit	$ 3	$5

Fixed costs in total—$40,000.

If the two products are sold in the ratio of 2 B to 1 A, the profit-volume ratio for the product "package" is computed as follows :

Sales		
1 A @ $10	$10	
2 B @ $ 8	16	$26
Variable Costs		
1 A @ $7	$ 7	
2 B @ $3	6	$13
Contribution Margin		$13

Profit-Volume Ratio : $13/$26 or 50%

For this sales mix, the profit-volume relationship is shown graphically (line X) in Figure 4. If the sales of the firm are currently $120,000 per year, profit is $20,000 provided the sales mix remains 2 to 1 in favor of product B. Assume, however, that during the following year the firm's sales increase to $140,000, but profit actually decreases because of a change in sales mix from 2 B to 1 A to 2 A to 1 B. Also, assume that everything else remains the same ; that is, there is no change in selling prices or costs. The new profit-volume ratio is computed below, and the new profit-volume relationship is shown graphically by line Y in Figure 4.

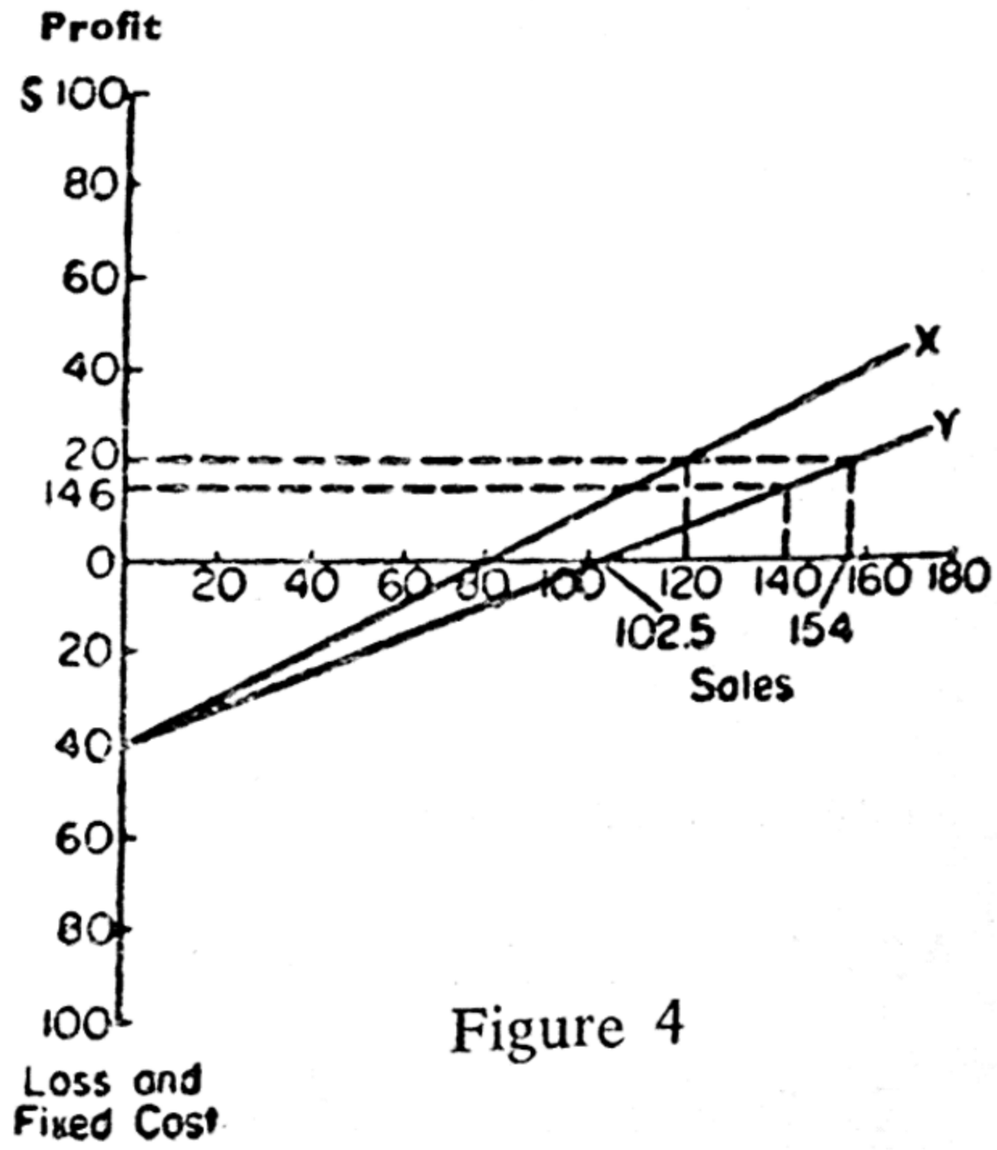


Figure 4

With fixed costs of $40,000, the new breakeven sales are $102,500 compared with $80,000 under the previous sales mix. Although actual sales have increased to $140,000, profit is decreased from $20,000 to $14,600 ($140,000 × 39%—$40,000). The decrease in profit is caused by a change in sales mix in favor of product A which has a lower profit-volume ratio than product B.

Sales		
2 A @ $10	$20	
1 B @ $ 8	8	$28
Variable Costs		
2 A @ $7	$14	
1 B @ $3	3	$17
Contribution Margin		$11

Profit-Volume Ratio : $11/$28 or 39%

The profit-volume graph illustrates this situation quite effectively. The decrease in the profit-volume ratio (for the new product package) is shown by a decrease in the slope of the profit line. Also, if the $20,000 profit line is extended to line Y, the level of sales necessary to produce the same absolute dollar profit under the new sales mix is shown to be about $154,000.

The primary advantage of the contribution-margin income statement and the profit-volume graph in reporting the results of operations stems from the regrouping of the variables which affect profit. In the conventional profit report, fixed costs are merged in several accounts while in profit-volume reporting the fixed costs are reported in total. In contribution margin reports, the selling price of the product, the variable costs, and the sales mix are considered as a package ; hence, all three variables must be considered in explaining profit changes. If profits change as the result of a change in the profit-volume ratio, the manager knows immediately which variables he must investigate in order to explain the change. Furthermore, he need not waste time looking at the level of the fixed costs ; if there is a change in fixed costs, it will be apparent immediately simply by glancing at the graph or the income statement.

DECISION-MAKING ADVANTAGES AND LIMITATIONS

The proponents of contribution-margin analysis claim various decision-making advantages for this tool. For example, it is pointed out that variable costs might be used in pricing the product particularly in a "dumping" situation. Some writers even say that variable costs may be used for regular pricing decisions if a markup is added which will cover a portion of the fixed costs and a satisfactory profit margin.

At this point, a storm of protest is usually forthcoming, primarily from businessmen who point out that the fixed costs must be considered in pricing the product. Many people view the allocation of fixed costs among the units as the only "safe" approach to cost-plus pricing. The fear is that if variable cost information is given to the sales personnel, the price actually quoted will gradually slip down so close to the variable cost that in the long run the sales revenue will not cover the fixed costs.

Turning now to product-combination decisions, what are the advantages and limitations of contribution-margin and profit-volume analysis? First of all, it must be recognized that the prices of the products are assumed to be given. Hence, the question is, with given prices, what product mix should be adopted? Actually, product-combination decisions are much broader than the above question indicates. When a firm is deciding whether to make or to buy a particular subassembly or part, the problem involved is essentially one of product-combinations. Furthermore, the entire realm of distribution or marketing decisions consists essentially of product-combination problems. For example, the question of the proper combination of sales territories or customer classes is very similar to the question of what combination of products should be produced and sold. The same general approach should be used for all of the above-mentioned problems. The desirability of a customer class, like the desirability of a shoe department, should be judged on the basis of its contribution to the over-all operation.

For illustrative purposes, the example given above will be used in the following discussion. The firm sells two products, A and B, whose prices are $10 and $8 whose variable costs are $7 and $3 respectively. If the contribution margin approach is used to determine the best combination of products, the fixed costs of $40,000 will not be allocated to the two products. Fixed costs, although necessary for the operation of the firm, will not change as a result of choosing various combinations of products. The decision to be made is one of choosing the best use of the firm's facilities. Those costs which do not change no matter what use is chosen are irrelevant.

For any given level of dollar sales, the best combination of products is that combination which will give the highest contribution margin. With this restriction on sales, the choice can be made by looking at the profit-volume ratio for each different sales mix. Thus, if sales are estimated at $200,000 for the coming year, the firm will make more profit if the sales mix is 2 to 1 in favor of product B than if the mix is 2 to 1 in favor of product A. The following calculation supports this conclusion:

Product Mix	*2 B-1 A*	*2 A-1 B*
Dollar Sales	$200,000	$200,000
Profit-Volume Ratio	50%	39%
Contribution Margin	$100,000	$ 78,000
Fixed Costs	$ 40,000	$ 40,000
Net Profit	$ 60,000	$ 38,000

However, if the sales restriction is dropped, it is not safe to conclude that 2 B for 1 A is a better combination of products than 2 A for 1 B. In other words, the problem of product mix cannot be solved in every situation by using only the profit-volume ratio.

If the products are examined individually the profit-volume ratio for A is 30% ($10-$7/$10) and for B is 62.5% ($8-$3/$8). It may appear, therefore, that product B is the most profitable product and thus should be pushed by the firm. However, such a conclusion overlooks one very important principle of profit maximization—in order to maximize profits the firm must maximize the rate of return with respect to *the scarce operating factor.* The contribution margin is the proper measure of the rate of return for each product, but a statement of the scarce factor is not a part of the contribution margin approach. Hence, the method is incomplete. More information is needed in order to use this approach in product-combination decisions.

Assume that the scarce factor in this case is production time; that is, the firm can sell more units of A or B than it can produce at the present level of capacity. In such a situation, even though product B has the highest contribution margin and profit-volume ratio, product A may still be the more profitable product. This may be the case if product A takes less production time than product B. For example, assume that it takes only 1 man-hour to produce a unit of A and 4 man-hours to produce a unit of B. If the capacity of the plant is 200,000 man-hours per year, profit would be maximized by producing only product A. The following calculation brings out this point :

Product	*A*	*B*
Units of Production Possible	200,000	50,000
Contribution Margin (200,000×$3)	$600,000	
(50,000×$5)		$250,000
Fixed Costs	$ 40,000	$ 40,000
Profit	$560,000	$210,000

In this example, the scarce factor is production time. Actually, the scarce or limiting factor depends on the situation. In choosing the size of departments within a department store, the scarce factor may be floor space or the necessary capital investment. Using the contribution margin as a measure of the rate of return, the pertinent computation is the contribution margin as related to the scarce factor, e.g. the contribution margin per hour of production time, per square foot of floor space, per dollar of capital invested, etc. In the above example, product A is more profitable than product B since the contribution margin per hour of production time is $3($3/1 hour) for product A and $1.25 ($5/4 hours) for product B.

The contribution-margin approach combined with a statement of the scarce factor of production is a useful approach for solving product-combination problems. The profitability of the unit can be judged by its rate of return as related to the scarce factor. To criticize the contribution margin approach because it overlooks fixed costs, as is sometimes done, is not justified. Instead, the criticism should be that this approach may be incomplete because of its failure to consider properly the scarce operating factor.

Actually, allocation of fixed costs to products *may* give an indication of the relative profitability of each of the products if the allocation is based on the scarce factor. For example, if the scarce factor is 200,000 man-hours of production time and the fixed costs are $200,000, a charge of $1 per hour might be allocated to each product. The relative profitability of the two products can be calculated as follows:

Product	*A*	*B*
Contribution Margin Per Unit	$3	$5
Hours of Production Time Per Unit	1	4
Fixed Cost Per Unit	$1	$4
Profit Per Unit	$2	$1

This solution does not hold in *every* case however; thus, this procedure may be very misleading. For example, when the fixed costs are only $40,000, the charge based on 200,000 man-hours is 20 ¢ per hour and product B appears more profitable than product A—$2.80 profit for A as compared with $4.20 for B. Hence, in this case the allocation of fixed costs leads to a wrong conclusion. The reason for allocating fixed costs is to convert the scarce factor to dollars. However, unless the fixed cost rate is sufficiently high, the procedure is invalid. The reason is that the value of an hour of production time depends on the contribution margin per hour of the respective products. There is no logical reason why the fixed costs per hour should be any indication of the value of an hour of production time.

The contribution-margin approach for choosing product-combinations may appear to be applicable only to short-run problems. This, however, is not the case. In the long run, the firm may face decisions which involve expansion of facilities. Such an expansion might involve additional capital investment and the question of what area or part of the firm should be expanded. For maximum profit, the department which should be given the additional floor space is the one which will give the highest contribution margin per additional square foot of floor space. Likewise, if the firm is choosing new sales territories as part of a market expansion program, the territory chosen first should be the one which will give the highest contribution margin as related to the scarce factor—which in this case might be capital invested or hours of salesman's time. Hence, the contribution-margin approach is useful not only for decisions regarding the best use of existing facilities but also for decisions involving an expansion of existing facilities.

CONCLUSIONS

In approaching the problem of product combinations, fixed costs should be ignored. Even if the fixed costs increase, the most profitable product mix

will not be changed. The pertinent information regarding each product, department, sales territory, customer class, etc. is the contribution margin. This requires a knowledge of selling prices and variable costs. However, it is also necessary to have a statement of the scarce operating factor. The profitability of each product can then be judged by relating the contribution margin to the scarce factor. The information required may be difficult to compute. It may be that the firm faces many alternatives, and an estimate of each may be required. However, a careful estimate of the pertinent information should give a better solution than various shortcut methods which use readily available but meaningless data.

23 / *Top Management's Stake in the Product Life Cycle*

ARCH PATTON

Most products have a life cycle. Knowledge of the stages in the cycle and the implications of each will help management to alter its strategies over time thereby obtaining greater profits.

It is relatively easy for top management to recognize the profit implications of price reductions, design changes, product obsolescence, and other of the more obvious competitive weapons where a particular product is concerned. But executives have been slower to grasp the importance of a product's position in its life cycle as a basis for planning the strategy of profitable product exploitation. Too often their attention is focused on day-to-day competitive situations, or company-wide problems, rather than on the opportunities to advantageously shape a product's destiny that result from trends inherent in its life cycle.

The life cycle of a product has many points of similarity with the human life cycle ; the product is born, grows lustily, attains a dynamic maturity, then enters its declining years. Like the human, a product that has not built up its potential during the formative years is likely to be relatively unsuccessful in its maturity. And just as each of us must manage our financial resources during maturity to take advantage of opportunities or protect ourselves against adversity, so executives who control the destiny of a product must optimize their use of capital resources in the latter stages of the product life cycle.

There are critical differences between the product and the human life cycle. Every person has an average life expectancy—his allotted "three score years and ten". But the life expectancy of a product varies widely. When a dress designer creates the "sack" style, he probably expects that it will have little more than a year of life ; the design of a Chippendale chair may be "good" for generations. Aspirin is still aspirin after 65 years, but jet-prop engines were virtually obsolete by the time they came off the drawing board.

Although man has fruitlessly sought the elixir that will extend his own span on this planet, product life cycles—or phases of the cycle—have been lengthened or shortened by a variety of causes. When patents on the tube-

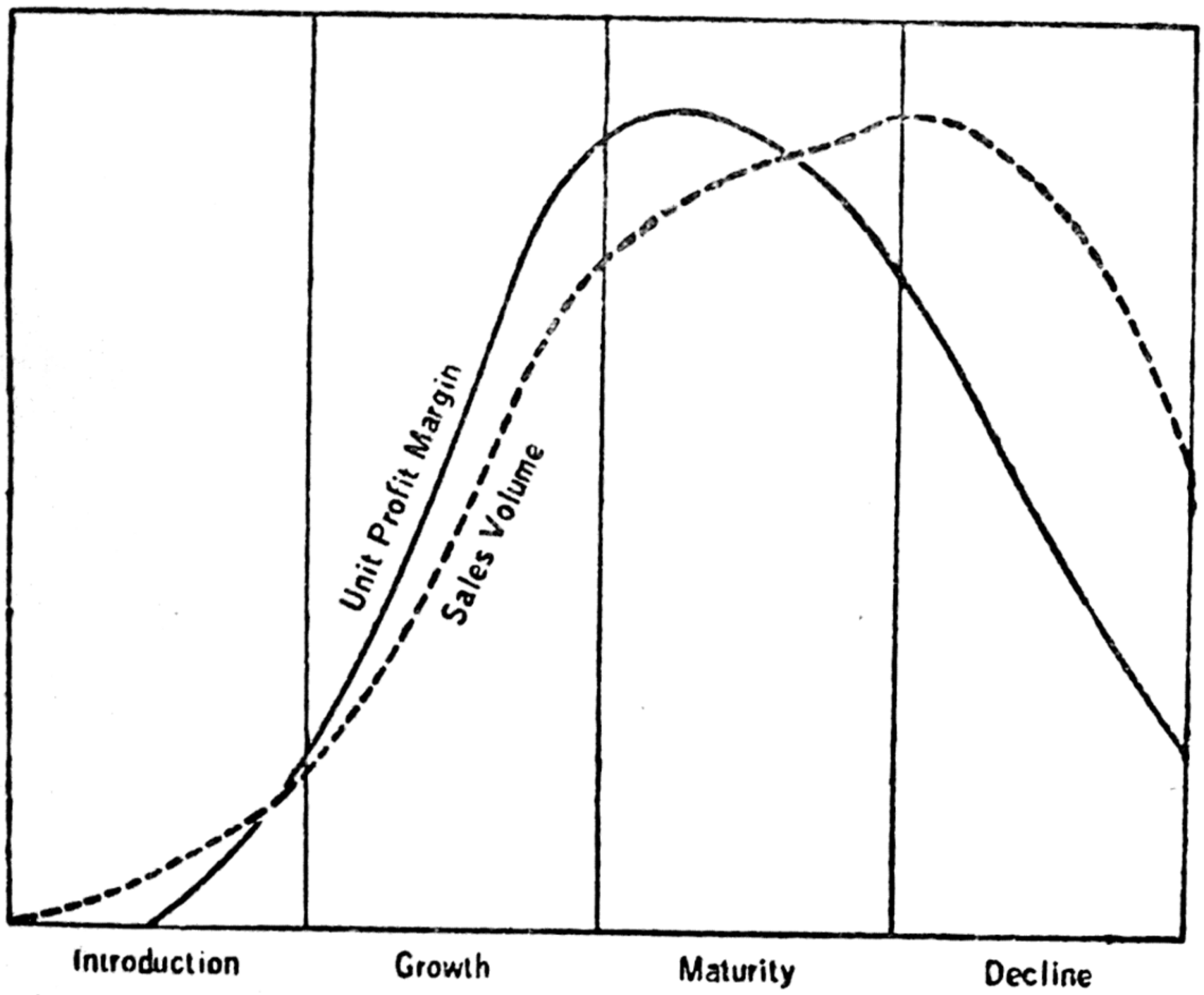
SOURCE : From *The Management Review,* a publication of the American Management Association, vol. 48, June, 1959, pp. 9-14, 67-71, Arch Patton. Principal and Director, McKinsey & Company, Inc.

less tire did not stand up in court, the product moved through the introductory and growth stages to maturity in less than four years. The automobile industry lengthened its maturity period immeasurably by what has come to be called "planned style obsolescence," which made automobilies a symbol of success rather than a means of transportation. (The auto industry's short-cycle model change based largely on styling has been tried in other industries with relatively less success. Perhaps if TV sets, refrigerators, and washing machines were parked in our driveways, the result might have been different).

THE LIFE CYCLE CONCEPT

Essentially, the product life cycle concept is a simple one. It has three key elements: (1) Products move through the cycle of introduction, growth, maturity, and decline at varying speeds; (2) unit profits climb sharply in the growth phase and start to decline because of competitive pressures during

Profit-Volume Relationships in the Product Life Cycle



the maturity phase, while volume continues to rise; and (3) the functional emphasis required for successful product exploitation—engineering and research, manufacturing, marketing, and financial control—changes from phase to phase in the cycle as shifts occur in the economics of profitability.

At the risk of oversimplifying the life cycle concept, the chart on this page gives a view of the profit and volume relationships occurring in each phase of the cycle. The losses of the early introductory phase give way to soaring unit profit margins during the growth phase. Profits turn down—while volume continues to expand—in maturity, and both slump during the decline, or obsolescence, phase.

These profit-volume shifts, in turn, lead to changes in the relative importance of the various functions within a company from phase to phase. This is probably best described by a brief review of the distinguishing environmental characteristics in each segment of the product life cycle.

The Introductory Phase

The critical ingredient here is research or engineering skill in product development. However, skill in testing and launching the product ranks high as a factor in its ultimate success. Many a "better mousetrap" never saw the light of day because consumers did not know which door to beat a path to. Normally, losses are heavy in this period, for volume is too small to yield profit in the face of high promotional costs.

The Growth Phase

The product having survived the introductory phase, the problem becomes one of getting a workable version on the market in sufficient volume to secure a brand franchise. This is of special importance for a consumer product, which must build acceptance at the distribution, retail, and consumer levels.

Thus manufacturing becomes the key function. Many products have died in the growth phase because engineering or research tinkered with product design so long that competitors pre-empted the market by the time production got under way. Indeed, there is evidence that, under certain market conditions, volume is more important than product quality at this stage. The consumer apparently will accept uneven quality in a product's early growth period if he wants the product and has little basis for comparison between products. However, it must be added that the extent to which a product provides real consumer satisfaction at this stage largely establishes the quality climate in which the product will live in later stages of its life cycle.

This is a period of high and sharply rising profits for manufacturer, distributor, and retailer. Risks can be accepted that would be disastrous in a more competitive era, for soaring demand covers a multitude of sins involving hasty or ill-considered actions.

At some point in the growth phase, marketing decisions of great future importance are made. For example, agreeing to market the product through a specific distribution channel, or to sell only to the "quality" market, may become important restrictions on product manœuverability in the next, or maturity, phase.

The Maturity Phase

As volume rises and the market becomes increasingly saturated, marketing steps to the center of the stage. Generally speaking, at this point all competitive products are reliable and there is less and less to choose between them. Improvements in the product tend to be small, with "selling features" or style changes dominant.

Profit margins begin to slip during this phase, despite rising volume. This results from each agency in the distribution process—starting with the retailer, moving back to the distributor, and finally reaching the manufacturer—giving up some profit in an effort to maintain or increase volume. This may take the form of one link in the chain absorbing costs that normally are borne by another (distributors handling credit and financing for retailers, maufacturers consigning stock to distributors), or taking over the functions of the other (as when manufacturers set up branches to replace distributors or retail outlets to bypass both distributors and retailers).

Often overlooked in assessing product distribution costs at this juncture are the costs *beyond* the manufacturer's sales force—the profit margins of distributors and retailers. These costs loom large in the total product cost, lie closest to the consumer, and are the first to feel a price squeeze. If the experience of recent years is any criterion, price pressure on a "mature" product at the manufacturer level lags behind retail and distributor price pressures. This tendency underlies the movement among manufacturers to "get closer to the consumer" by establishing branches or retail outlets. Such a step is designed to protect the factory profit by accepting a break-even, or loss, if necessary, at the branch or retail level to move the product in quantity.

Creative selling may develop whole new markets for the product in the maturity phase, despite apparent saturation of the market. Cigarette manufacturers opened the female market when the sales to male smokers approached saturation; and deodorant makers reversed this procedure by turning to the male market after saturating the female market.

The Decline Phase

As a product becomes increasingly mature, the pressure to reduce costs in each step of the engineering-manufacturing-distribution process mounts. This results from growing price competition, as the difference between competitive products is reduced to the vanishing point and increasingly sophisticated consumers evaluate price and quality more effectively in their buying. The advantages of the "old" product versus the attractiveness of the "new" products coming on the market also play a part in the consumer's assessment of product value at this point.

The need for controlling costs, which normally starts while volume is still rising, becomes a matter of survival as the product moves into the decline phase. The few manufacturers of street cars, steam locomotives, and windmills still in business are the last of a long list of competitors; they survived by withstanding price pressures of the decline phase longer than the others, or by developing other products.

The dominant role of marketing at product maturity gives way in the final phase of the product life cycle to the need for a coordinated control over all product costs: engineering, manufacturing, and marketing. The functional

emphasis in a product's decline—and in the late maturity phase--thus becomes one of "managing" product expenditures to optimize the return on each dollar of cost.

The product can no longer afford a marketing, or manufacturing, or engineering-oriented management. It cannot afford, for instance, to have the engineering department spend 90 per cent of its development budget on marginal improvements with little consumer attraction; or to have a manufacturing department "under run" a seasonal product 30 per cent to protect itself against being overstocked at the year end; or to have a sales department overestimate product requirements by 20 per cent to ensure prompt delivery.

Each of the above decisions (they actually occurred) appeared reasonable to the functionally oriented executives who made them, and, had the products involved been in the growth phase, the chances are good that these errors in judgment would have been buried under the rising tide of demand. However, each of the products faced the severe price pressures of late maturity, and company profits were sharply reduced by these unilateral decisions.

As the necessity for "managing" the exploitation of a product grows more acute, financial controls become increasingly important. So do the skill, resourcefulness, and courage of the financial executive. He becomes, in effect, the chief of staff to the executive with over-all profit responsibility, who alone has the authority to insist that functional executives develop a coordinated program to optimize product profitability.

So functional control comes full cycle in the decline phase. The executive with over-all responsibility saw to it that the product was successfully introduced; then he yielded a measure of influence to the manufacturing and marketing executive as the cycle unfolded, only to reassert his authority in the final phase.

SOME BIG QUESTIONS

There are those who believe that so many exceptions can be found to the product life cycle that it has questionable validity. They point out, for example, that many products of venerable vintage—such as steel, brick, coal, cement, bread, copper, shoes, and window glass—fluctuate with the economy rather than conforming to the traditional product life-cycle pattern. Similarly, a broad range of consumer and specialty items appears to be impervious to the normal life-cycle pressures. These include such products as drugs, patent medicines, branded packaged foods, printing presses, roller window shades, drill presses, saws, bicycles, and the like.

Some products appear to be less subject to price competition at maturity than others for reasons that are not always readily explainable. One segment of this fortunate group consists of relatively low-priced products with pleasure or health-giving properties that people have come to belive in—and have

little basis for judging. Products of this type are generally bought emotionally, frequently from habit or simply liking the product, as distinct from purchases that are made after a more or less judicious comparison of the merits of competing products.

The whole range of proprietary and ethical medicines, and certain proprietary specialties—Angostura Bitters and Hershey chocolate, for example—fall in this category. Another segment includes a large group of products that so dominate the market that their manufacturers are in a position to exercise great influence, if not actual control, over prices.

Durable consumer products, which are more subject to price competition than emotionally bought consumer items, appear to have certain life-cycle advantages over products bought by industry. These largely reflect the franchise that a refrigerator, or shoe, or furniture manufacturer has at both the retail and consumer level. The new producer of a durable consumer item (radio, refrigerator) faces the costly prospect of building brand acceptance among retailers and consumers, even with a vastly improved or new product. Industry's hard-headed purchasing agents, on the other hand, are willing to buy a new product—or drop an old one—in short order if the reason is demonstrable. With less emotion involved in the buying decision, the advantage of innovation is quickly lost in an industrial product. Imitators often are ready, willing, and able to copy a successful new development, and buyers will frequently accept the "copy" on the basis of relatively minor price, delivery, or service advantages.

Much of the doubt about the validity of the life-cycle concept appears to stem from two basic sources: the economics of the production-distribution process, and the definition of what constitutes a new product.

For instance, anthracite coal does not exhibit the price weaknesses associated with a product in its decline phase. Yet domestic output of anthracite has been cut 50 per cent during the past 15 years as a result of the competitive inroads made by oil and gas. The reason coal prices did not decline, of course, lies in rising union-controlled labor rates and the failure of a large number of marginal producers that were forced by declining volume to close down.

In other words, the fact that anthracite coal does not behave like a product in its decline phase results from a combination of economic factors that made it possible to maintain prices, despite a large drop in demand, by curtailing output. A similar economic balancing act seems to occur to many other commodity or commodity-type products in the decline phase.

A substantial number of products that do not follow the typical life-cycle pattern are protected by the economics of their production-distribution process. Patents, a limited number of producers willing to live and let live, heavy brand-advertising expenditures, and a dominant market share by a single producer—all help a product negate the facts of the life-cycle.

However, the most complex element to untangle in understanding the life-

cycle concept involves the question: What is a new product? For example, are stereo records a new product or simply an improved variation of the conventional monophonic record? How about the steam iron versus the dry iron? Or filter cigarettes versus the original nonfilters? Or fluorescent versus incandescent lamps? Or color television versus black and white TV?

The difficulty of determining under what conditions a new product moves into its own cycle and when it is a variation of an old product that merely fluctuates around the life-cycle of the "mother" product is a major factor in doubts regarding the product life-cycle.

There appear to be few universally recognized characteristics distinguishing the new product from an improved variation of an old one. Indeed, examination of a good many products indicates there may be several degrees of "newness".

1. *The unquestionably new product*—Stereo records show all the signs of a new product at introduction: high price, severe performance problems, spotty distribution, and the like. As another example, the transistor does certain things better than radio tubes, and at a lower cost.

2. *The partially new product*—The steam iron satisfies a consumer need—for dampening fabric—that the original dry iron cannot. However, the steam iron can do everything the dry iron does, hence competes as a general-use iron with the latter. Another example might be the portable radio, which does everything the table radio does and, in addition, can be readily carried about. The key here appears to be a product that extends the market, but also competes with the old product.

3. *The major product change*—Basic technological changes may yield a new product that becomes a mature product virtually overnight by simply replacing the old product. LP records and tubeless tires are cases in point. The principal manufacturers switched from the old to the new product so quickly that the new product had virtually no life-cycle of its own.

4. *The minor product change*—Power steering, remote-control TV tuning, and the like may give the product a short-term competitive edge, but they do not alter the life-cycle pattern of the product.

These examples indicate that a new product can reasonably be described in these terms:

> A new product is a product that opens up an entirely new market, replaces an existing product, or significantly broadens the market for an existing product.

Since there are many marginal situations where—even with the advantage of hindsight—it is difficult to distinguish the new product from the variations in an old one, there is obviously considerable risk of error in assessing the future of an existing product. For many years prior to the war, for example, telephone installations fluctuated with building construction and the economic cycle. The telephone showed every characteristic of a mature product during those

decades. Yet in the post-war years, telephone installations zoomed and far outstripped new construction.

Why? The answer lies in a change in the promotional philosophy of the telephone company after the war. The gaily colored phones, the advertising about the use of these phones in the den, kitchen, and so on, contributed to an upward push that renewed the growth pattern of what appeared to have become a mature product.

ECONOMIC FORCES AT WORK

Some industries have found it essential to *count on* relatively short life-cycles for their products. Ethical drug and packaged cereal manufacturers discovered that sales of new products normally enter a declining phase in three to five years. Therefore, if product-development programs are not planned around this short life-cycle, company profits become unrealistically high for a short period and then slump drastically.

A patent-protected product may stay in the high-margin growth phase for years after an unpatented item of identical vintage has been subjected to profit-slashing price competition in its maturity phase. When the Ronson lighter patents expired a few years ago, the product switched from what appeared to be its growth phase to a highly competitive maturity phase virtually overnight.

Fundamental economic forces are constantly at work changing the life-cycle pattern of products. For example, the farm market is in the process of a major shift from small operators who look at farming as a way of life to large farmer businessmen (and even farm corporations). Such a move is likely to mean that the distribution mechanism for selling the farm market will tend toward fewer and larger outlets. This, in turn, may well speed up the life-cycle of farm products as the more aggressive manufacturers sense the opportunity to gain an advantage by stepping up the tempo of marketing change and product development.

This would not be the first time that imaginative engineering has shortened the life-cycle of existing products by finding new approaches to better serve customers within industries facing basic changes in their profit climate. Not too many years ago the design of a printing press, or a steam generator, or a machine tool, or a paper-making machine changed relatively infrequently. Today, competitive engineering is forcing constant change in the life-cycle pattern of such products.

Studies of the product life-cycle face the problem that the four major phases of the cycle do not divide themselves into clean-cut compartments. At any given point in time, a product may appear to have attained maturity when actually it has merely reached a temporary plateau in the growth phase prior to its next big upsurge, or an economic recession can give a growth-destined product temporary symptoms of maturity. This means that it is

frequently difficult to judge with accuracy the phase of the cycle in which the product currently finds itself....

VALUE OF THE CONCEPT

Despite the many unanswered questions, the life-cycle concept has proved to be a sound planning tool when properly used. An appliance manufacturer was considering an expensive advertising and promotional campaign designed to create a "quality image" for its product. A survey showed that this particular appliance was in the late maturity phase of the life-cycle. Competition was keen, and the company's product had spotty distribution (rarely in "quality" outlets); it was considered a "price" item by retailers, and recent models had had serious performance deficiencies. If this product had been in the growth phase, attempting to change a "price" image into a "quality" image might have been practical. The fact that this product was in the maturity phase, however, argued that, in the short term, funds could be used to better advantage in other directions. The reason, of course, was that both the consumer and retailer image of this and competing products had "hardened". Any material change in this image would require a huge advertising and promotional expenditure over many years—and years were too long to wait for improvement.

Another manufacturer was considering eliminating wholly-owned branches in large cities because they were losing money. However, the product was a mature one, and field surveys indicated that gaining tight control of retail distribution in big cities was essential to maintaining volume. This pointed to the need for *more,* not fewer, branches, and led to a careful investigation of the whole distribution process. It was found that (1) company-owned branches had consistently captured a higher market share than the best independent distributors, (2) the *manufacturing profit* on branch volume easily offset branch losses, and (3) in spite of branch losses or break-even results, the company was generating substantially greater profits in branch markets than distributor markets having similar potentials—enough to make the return on large branch investments very attractive. In this case, a major decision was reversed because the life-cycle position of the product forced a more intensive study of the problem.

The life-cycle concept has been valuable in planning the future product exploitation strategy of many companies. For example, General Motors' early decision that a strong dealer organization was essential to its future success gave this company an important competitive edge as the automobile attained maturity. The decision of companies like Stewart-Warner, CBS, Raytheon, and Stromberg-Carlson to withdraw from television set production early in this product's maturity phase points to their recognition that life-cycle pressures were working against them.

On the other hand, many companies have made decisions damaging to

their product's position in the market, indicating that they did not fully understand the forces at work at various stages in the product's life-cycle. Servel decided to switch distribution of its gas refrigerators from local gas companies to the more typical distributor-dealer channels during the product's maturity phase. The loss of sales momentum at this critical juncture in the gas refrigerator's life-cycle is regarded as an important factor in the company's ultimate withdrawal from refrigerator production.

PROFITS AND PERSONNEL

To be sure, much remains to be learned about the economics of the product life-cycle. But studies to date have shown that two critical management areas are best understood in terms of this cycle : (1) product profitability, and (2) the personnel requirements of product management.

Product Profitability

The fact that product profits are greatly influenced by their life-cycle position points to the wisdom of taking this into account in product-exploitation strategy. Great risks can be taken in the growth phase. Indeed, time is so critical at this juncture that such risks often *must* be accepted. However, a careful husbanding of resources is essential in the later maturity phase, when profit margins are so low that losses become very difficult to recoup.

Underlying any discussion of the product life-cycle is the pressing need for management effort to insure the generation of new products to provide stability of company profits. This is particularly vital in industries where product life-cycles are characteristically short. The role of the research and development functions and the strategy of merger cannot be underestimated as elements in long-term profitability—or even survival.

Personnel Strategy

The perspective that the life-cycle concept provides top management in the development of executive personnel can greatly influence company profits. When General Motors chose Harlow Curtice as its chief executive in 1953, the directors' action undoubtedly reflected the maturity of the automobile itself and the need for a strong marketing executive.

The shifting of the functional job skills that are required in the several phases of the product life-cycle makes it possible for top management to assess future personnel needs with some accuracy. Research and engineering are the key in the introductory phase, manufacturing in the growth phase, marketing in the maturity phase, and financial and over-all management judgment in the decline phase.

However, since phases of individual product life-cycles are constantly changing and usually overlap phases of other products, there is evidence that a *balanced* group of functional executives is of prime importance. Companies

dominated by engineering, manufacturing, marketing, or financial executives seem to have problems in other phases of the cycle or in managing a group of products in different life-cycle stages. A fast growing chemical company, dominated by research-oriented executives, discovered to its surprise that several key products were in the late maturity phase and were not being effectively marketed. Top management considered theirs to be a "growth" business—which, in general, it was—but had not faced up to the problems of the mature products in their line.

The need for a balanced group of functional executives is attested to by the expanding product line of the average company. This means that more and more individual products are likely to be in different phases of the life-cycle at a given point. For example, the major TV producers also sell radios and high-fidelity equipment. Each of these products is in a different phase of the life-cycle: hi-fi is rapidly growing, TV is at maturity, and table radios are close to the decline phase. Thus each has different problems and opportunities and requires executives with somewhat different talents.

In the long run, since all products get older and the maturity and decline phases constitute the longest portion of the life-cycle, a growing demand for executives who can accept full profit responsibility is clearly forecast. How these men are to be identified and trained is one of the problems that many companies, with an eye on the life-cycle of their products, are wrestling with today.

24/*Design of the Marketing Program for a New Product*

G. T. BORCHERDT

Designing the marketing program for a new product is a profoundly important area in the life of any company. New product failures are extremely costly. The author of this article delineates specific factors to be considered in designing an integrated marketing program for a new plastic product.

Before getting into the aspects of designing a marketing program for a new product, I thought it might be well for me to give you a little background about the kind of business in which we are engaged in the Polychemicals Department of Du Pont. This may help you understand why I'll be somewhat vague in some areas that perhaps are of major concern to you, and on the other hand, appear to go overboard in considering some of the finer points related to our problems, not necessarily of great concern to you. I hope, however, that I adequately touch on the significant points because my main objective in this presentation is to relate them in a fashion that describes an integrated program.

Our Polychemicals Department manufactures and markets "Zerone" and "Zerex" anti-freeze, a wide range of agricultural chemicals and various bulk chemicals such as adipic acid, methyl alcohol, and ammonia. On the plastics side, we are heavily involved in the polythylene business, in fluorocarbon polymers, and a variety of nylon and acrylic plastics resins. We produce some semi-finished forms as well as finished forms of plastic products.

For this discussion I have chosen the plastics area for considering the design of a marketing program for a new product. I feel that here we can delineate specific factors in a very orderly and common-sense manner—and in addition we are dealing with what is now a profoundly important area in coming to grips with commercialization of new products.

In Figure 1 I have depicted in simplified form the sequential flow of materials as a plastic is produced, shipped to a customer for molding or shaping with the shaped object then following typical channels until it reaches its point of ultimate consumption or use. You will note that I have made a basic distinction between uses of the product that end up in producer equipment and those that are ingredients of consumer items. Depending upon the

SOURCE: From Robert L. Clewett (ed.), *Marketing's Role in Scientific Management* (Chicago : American Marketing Association, 1957), pp. 58-73, G.T. Borcherdt : Manager of Marketing Analysis Section, Polychemicals Department, E. I. Du Pont de Nemours and Co., Inc.

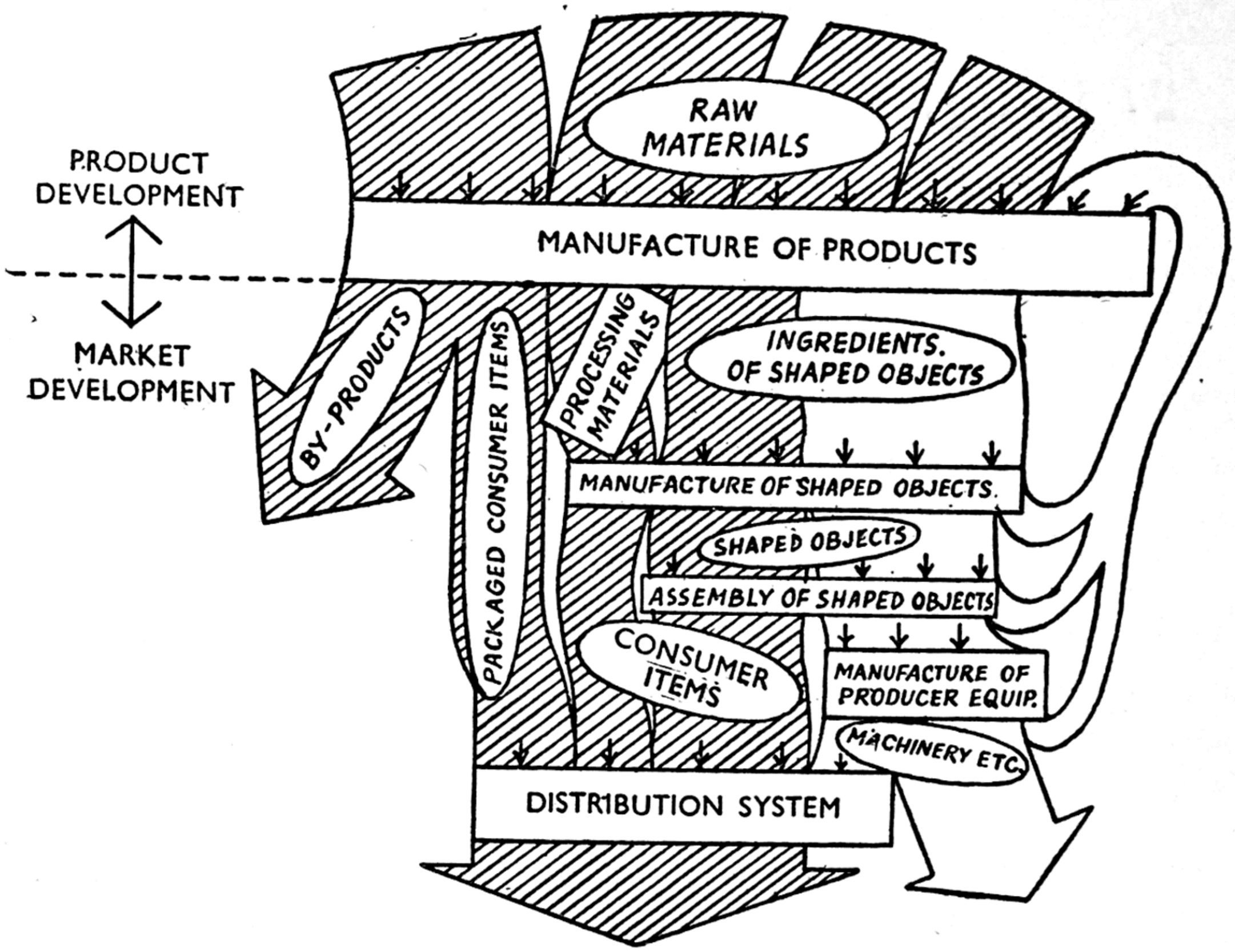


Figure 1
Typical flow of plastic product

extent of this split, the over-all product involvement can be profoundly influenced, because, as you well know, consumer goods purchases and capital goods purchases can be and very often are markedly out of phase. I have flagged this in the diagram by showing that the machinery involving the product ceases to flow at the point at which it is used, whereas the ingredient portion of the consumer item flows beyond this point. Although not shown in this simplified diagram, producer equipment, of course, can and usually does flow into the various other stages of manufacture. In this connection I have shown items produced by the customers, and their customers in turn, flowing back to the basic manufacturer of the product. This, I feel, can be a very important point to recognize inasmuch as valuable information can be obtained within your organization as to performance of items made from your products. You will find as I go along, that recognition of factors involved in the distribution through the stages indicated on this chart become principal points in my discussion, in particular the end-use factors involved. Also the factors shown on the left-hand side of the chart involving product development needs become important to recognize in the over-all design of the marketing program as these factors relate to the market development segment of the program.

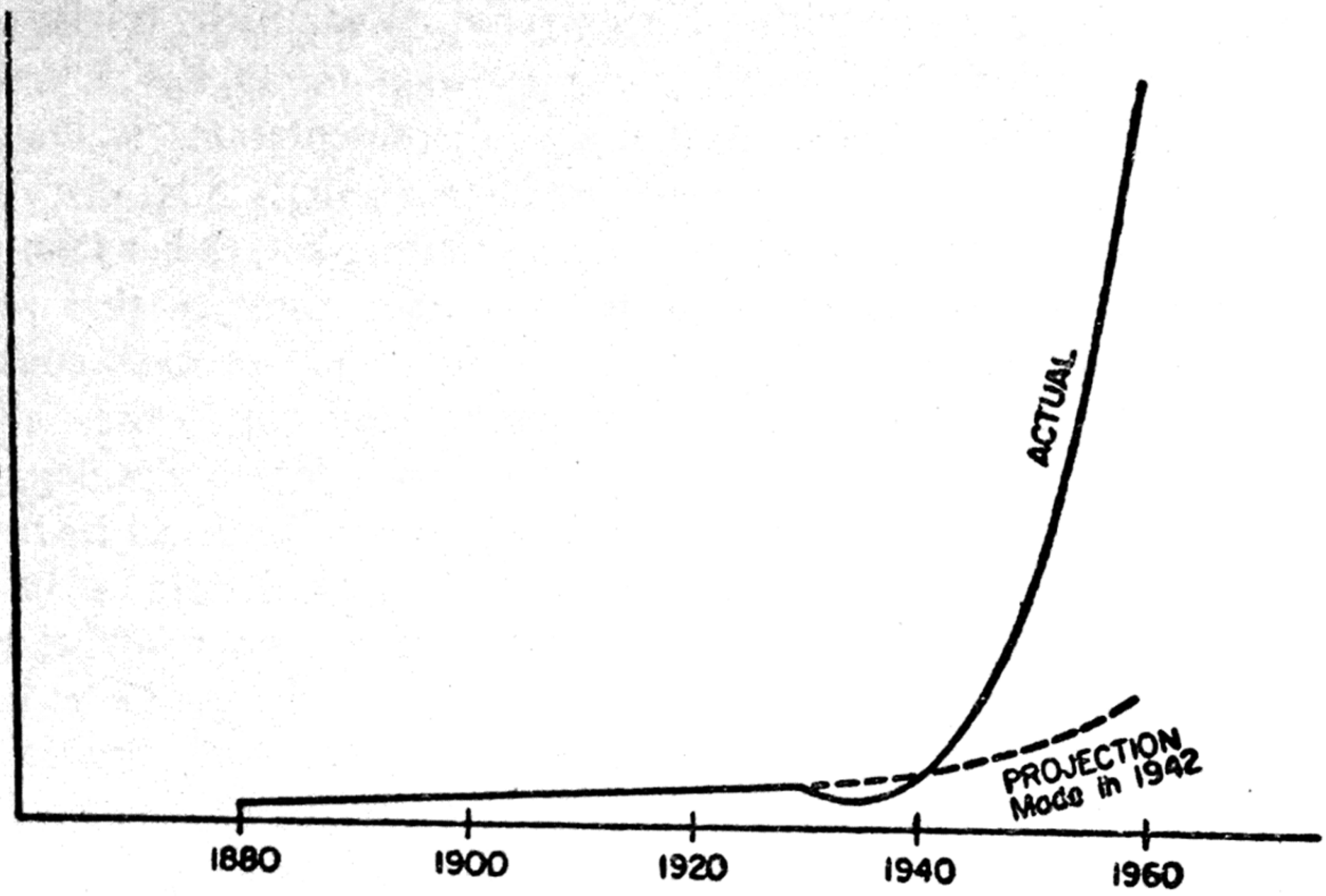


Figure 2
History of growth of plastic resin

Since I have selected a new plastic product for the discussion, let's take a look at what's been happening to plastics. Figure 2 shows the history of growth of plastics resins. This is an arithmetic scale in which the quantity in pounds for 1956 was a little over four billion and in dollars about two billion. Now, some pretty learned gents did a little projecting back in 1942,

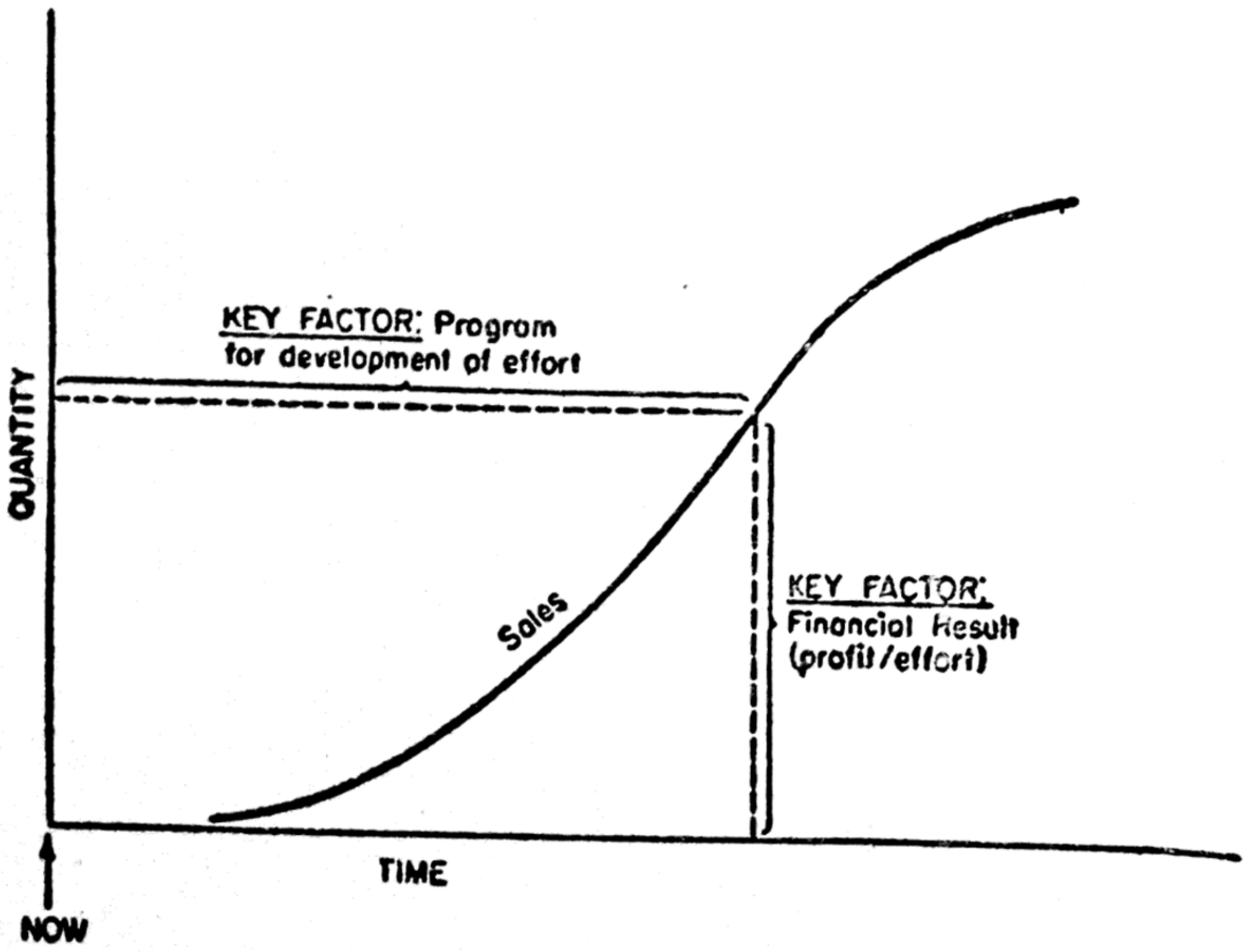


Figure 3
Base factors in design of marketing program for the new product

and look what they came up with. How wrong can you be by relying on historical trend projections? The point which I want to emphasize here—and as a matter of fact this is the heart of my whole presentation—is that in designing our program we must consider primarily what it is that can be achieved as a result of bringing this product on the market, rather than simply transcribing what has happened in the past to other materials that we have chosen to call plastics. I think you will find that the approach constitutes fundamentally the application of straightforward common sense, although there are undoubtedly some pretty knotty problems to face in development of the various components of the program and what can be achieved by it.

To set the stage, I have shown in Figure 3 the basic factors to be considered. Obviously, it is necessary to predict quantity of sales we feel we can realize as time goes on. The key factors in achieving these will be how we expect to deploy our effort in the marketing program—and resulting from this, whether or not it is worth while. In other words, can we predict an attractive profit position in relation to the effort required?

... Let's assume we have a candidate new plastic resin and tackle the job of setting the stage for decision on commercialization. Naturally, the first question we ask as the new plastic emerges from the test tube is "what's it good for?" So, in Figure 4, I've shown a quantity bar which describes, and

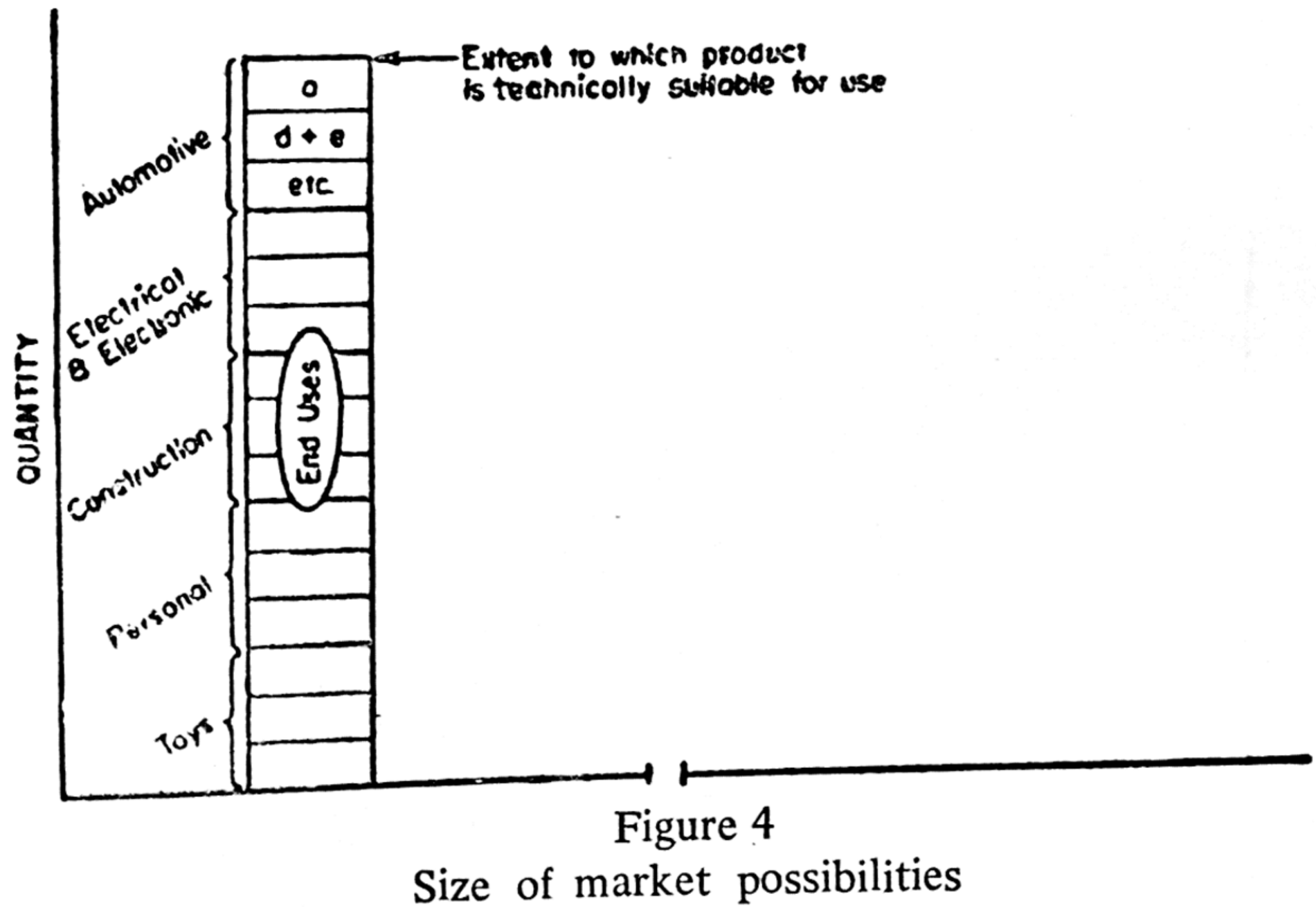


Figure 4
Size of market possibilities

I emphasize the word "describes," the extent to which the product is technically suitable for use. Or more simply, what can you make out of it and how much would be required if you made these things out of it? In doing this we must consider specific end-uses, and since we are considering whether or not it is worthwhile to commercialize the product, the size of the markets for these end-uses must be built up. Since our tools for doing this are

statistical data available from government and trade association sources and the like, it is inevitable that a first broad cut will fall into typical industry categories of the type I have shown on the left-hand side of the bar. Now, of course, if we don't build up much of a bar here, it is unlikely that we should be faced with designing a marketing program.

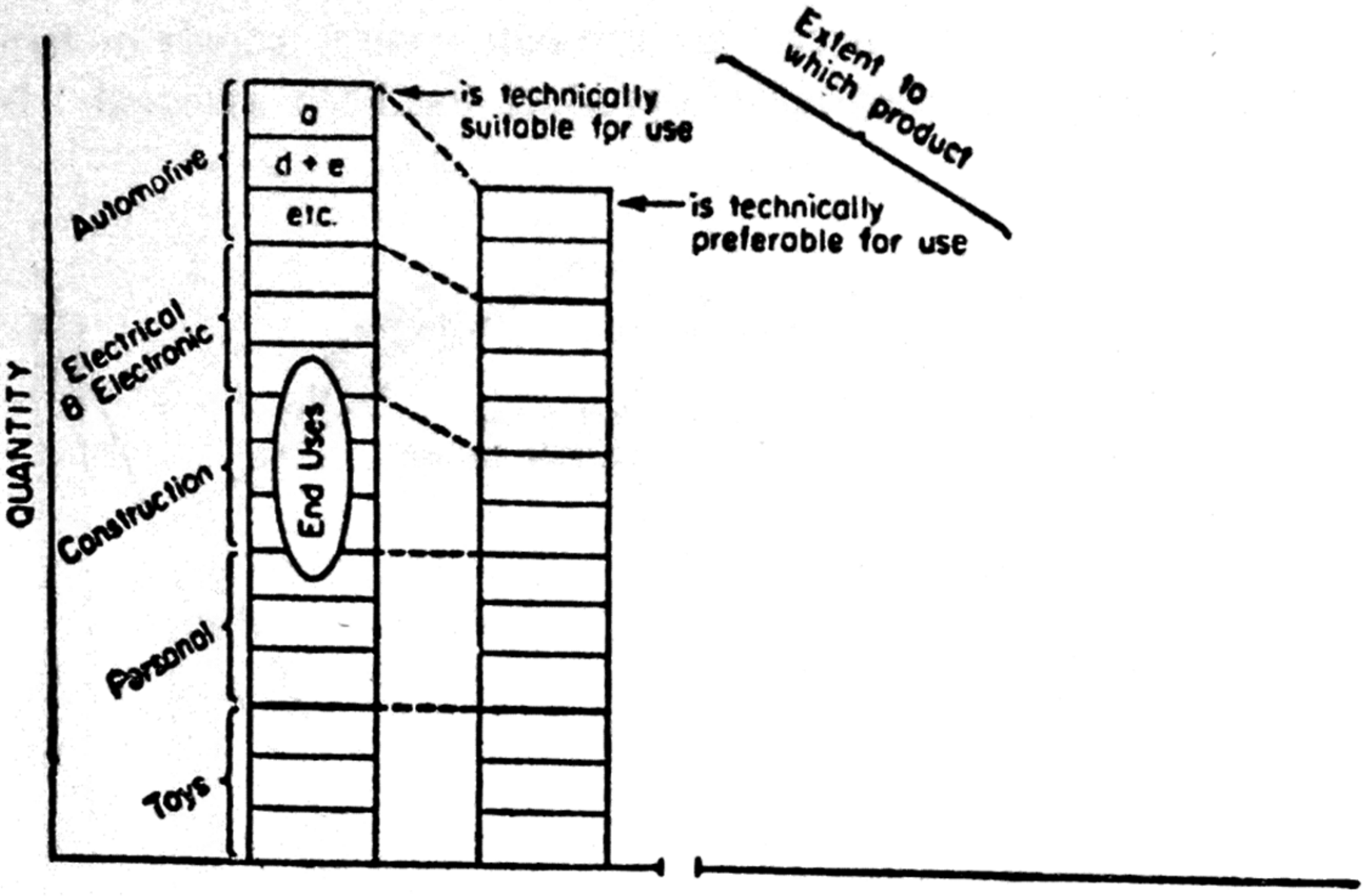


Figure 5

Size of market possibilities

We are undoubtedly going to be competing in many of the end-use areas with other materials either now being used or, though not yet on the market, also technically suitable. And so, we immediately start matching this new product against these other materials to judge where the new product will do a better job. In Figure 5 I have added, therefore, a second bar depicting the extent to which the product is technically preferable for use. Now I want to emphasize at this point that we have not yet come to grips with the costs associated with the use of the product. We're just trying to find out where, because of its end-use properties, it will do the best job. You will notice I've dropped out some of the end-uses in two areas, the automotive and the construction areas, as a possible typical situation faced with a new plastic resin. Thus, it may be possible to use it for a structural part, but if you really had your choice, and cost was not a factor, you would prefer to stick with steel or concrete, or possibly even wood. Now, I think this second bar with the data backing it up is a pretty important piece of information to have around. It is an important guide to indicate incentive for doing research and development to overcome cost barriers involved in the use of the product. It tells you what could be fair game for sales efforts in the event that you could do something about costs.

But we haven't considered costs yet and we still have a way to go in making

up our minds as to what we should be able to do in the way of sales if we commercialize this product. So, let's take a next step and consider the impact of selling price on the size of these market possibilities.

In Figure 6 I have added to the picture the market size depicting the extent to which the product should be used over a selling price range. Here is where the problem really gets complex because you will remember from the first figure that a plastic resin can go through several stages of fabrication before its real value as a potential end-product has been assessed. Basically

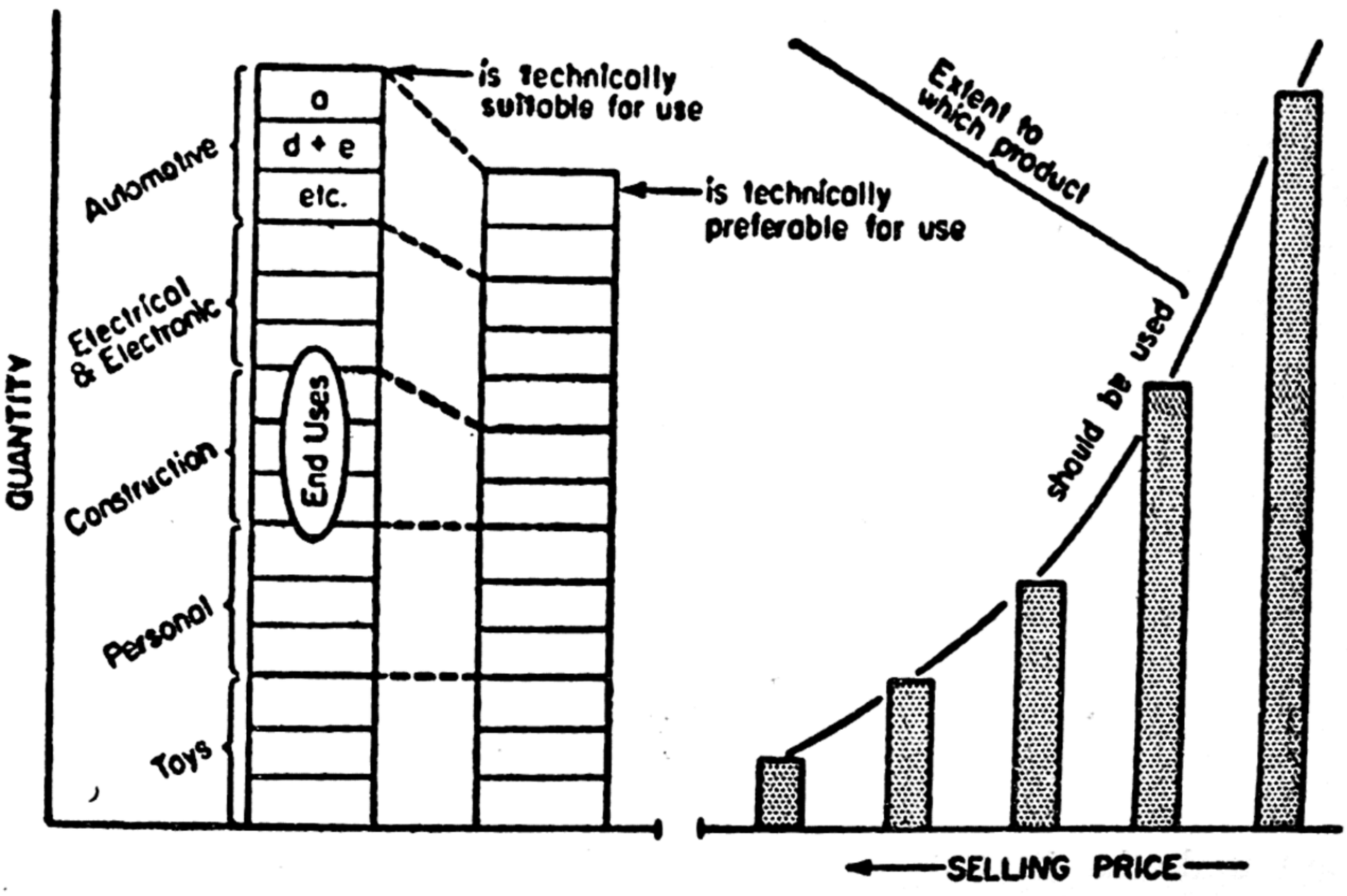


Figure 6
Size of market possibilities

the economic aspects of utilizing this material must be built into the overall picture in order to build the bars of "should be used" over the "selling price" range. The bar to the far right is, of course, equal to the far left bar, since at a sufficiently low selling price the product should be used wherever it is technically suitable for use.

Now, at this point I want to emphasize that in no way do these quantities representing size of market possibilities tell us how much we can expect to sell. We still have quite a way to go before we are ready to tell our management how much we expect to be able to sell. These quantities, documented by the data used in their development, basically provide us with a tool—and possibly one of the most basic tools—to start consideration of the design of the program with its attendant expected sales result. In the next series of figures, I am going to try to depict the basic framework in which this information behind the "should be used" bars fits with respect to the consideration of various alternative courses that we could take.

In the first figure of this series (Figure 7) I have switched around the ordinates of the last figure showing the line of the "should be used" against "selling price" with selling price on the vertical and volume on the horizon-

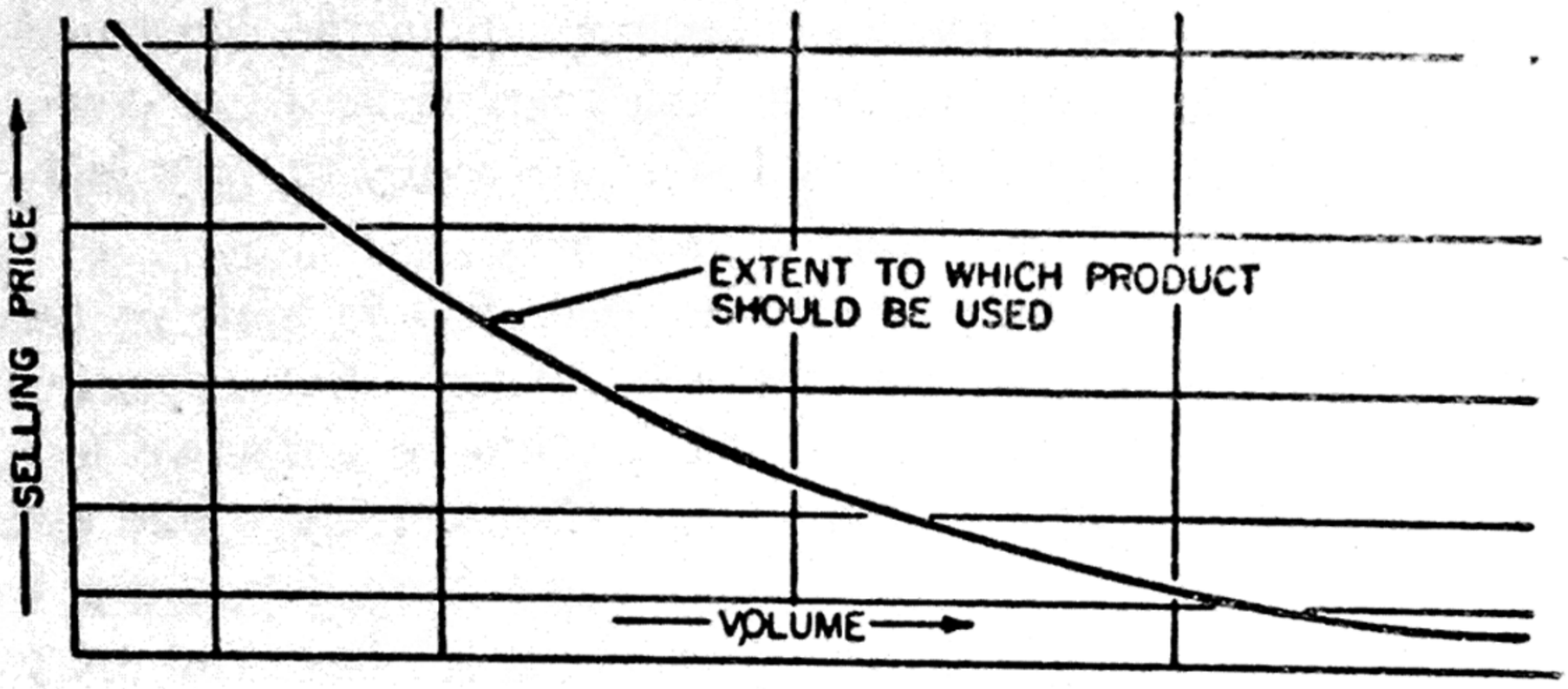


Figure 7
Framework of market possibilities

tal ordinates. In Figure 8, I've detailed the end-use market pattern by the various market areas associated with the built-up volume. Thus, at a high selling price we may have a single use in the automotive area and perhaps a couple of end uses in the electrical and electronics area where the specific properties of this new product have high economic value. Particularly in the

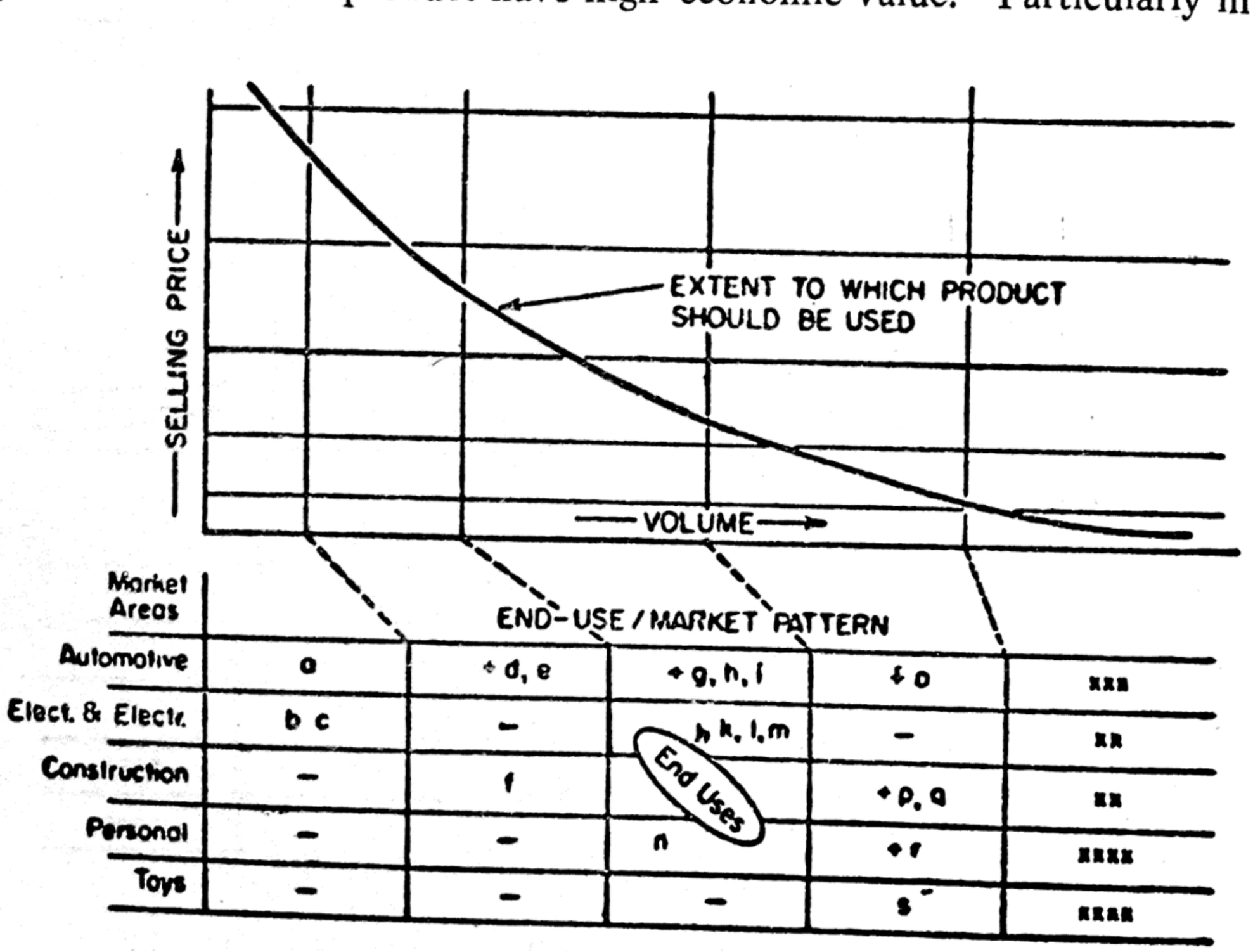
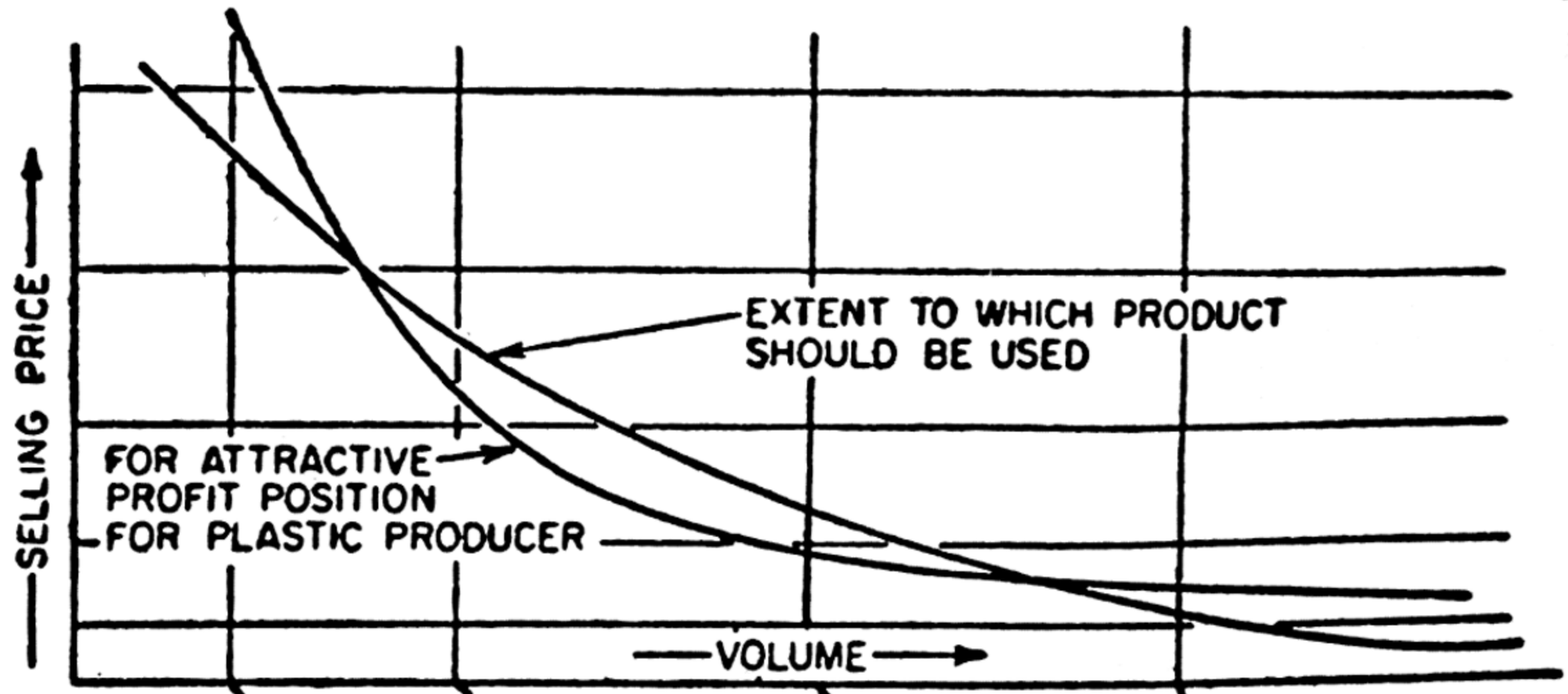


Figure 8
Framework of market possibilities

construction, personal, and toy areas other competitive products beat out our new product if it must sell at a relatively high price. But as we go down in testing the effect of selling price, D and E uses, or use areas, come in addition to the A, B, and C areas. Nothing more emerges from the electrical and electronics area, but an F use pops up in the construction area. Still no personal or toy items, but these later come in as we go down to relatively low selling prices, and of course build up rapidly to very high volume levels, perhaps throughout the entire market area.

Now, I feel we are starting to recognize some factors basic to the design of a possible marketing program for this new product. But, as yet I've shown nothing that gives us a clue as to whether it could be attractive for us as a producer to put the product on the market. Undoubtedly, while we've been building this market possibility picture we have been developing cost and investment information on the manufacture of the product, and we probably have a pretty good idea of what it's going to cost us to manufacture it. Moreover, it is likely that the unit costs and unit investments in production facilities will be quite sensitive to scale, particularly at the early stages of volume growth.

In Figure 9 I have added the typical line relating volume of production to selling price for an attractive profit position for the producer of the plastic resin. As indicated, this figure depicts a region of mutual incentive when you



Market Areas					
Automotive	a	+ d, e	+ g, h, i	+ o	xxx
Elect & Electr.	b, c	–	j, k, l, m	–	xx
Construction	–	f		+ p, q	xx
Personal	–	–	n	+ r	xxxx
Toys	–	–	–	s	xxxx

Figure 9
Framework of market possibilities and area of mutual incentive
(producer vis-a-vis user)

relate the line showing the extent to which the product should be used in the market with the attractive profit position line. In graphic form, it depicts whether or not there is likely to be mutual incentive on the part of potential users of the product and on the part of the producer for commercialization. If these lines don't cross, it seems quite unlikely there is any sound economic reason for putting the product on the market.

Perhaps you can now see my reason for associating the lower portion of the chart on end-use market pattern with this selling-price volume picture. We immediately begin to get some clues as to the nature and kinds of end uses on which we can put marketing effort and expect enthusiastic response in the market areas, depending upon our pricing plans. Of perhaps greatest importance, it indicates the order in which we will promote uses with the recognition of planting the seeds for future promotions as selling prices may trend down with increased volume of production. However, bringing this up at this stage is really premature because we have not yet come to grips with deciding what our sales volume can be in the face of these opportunities, and whether or not we can capitalize on them will depend upon the effectiveness we can achieve in a marketing program.

Referring again to Figure 3, we must put together the program for deployment of effort in terms of cost in relation to the profit to be realized by achieving sales. Another way of putting it, shown on Figure 10, is that if we start a marketing program we must, within an acceptable time, reach the

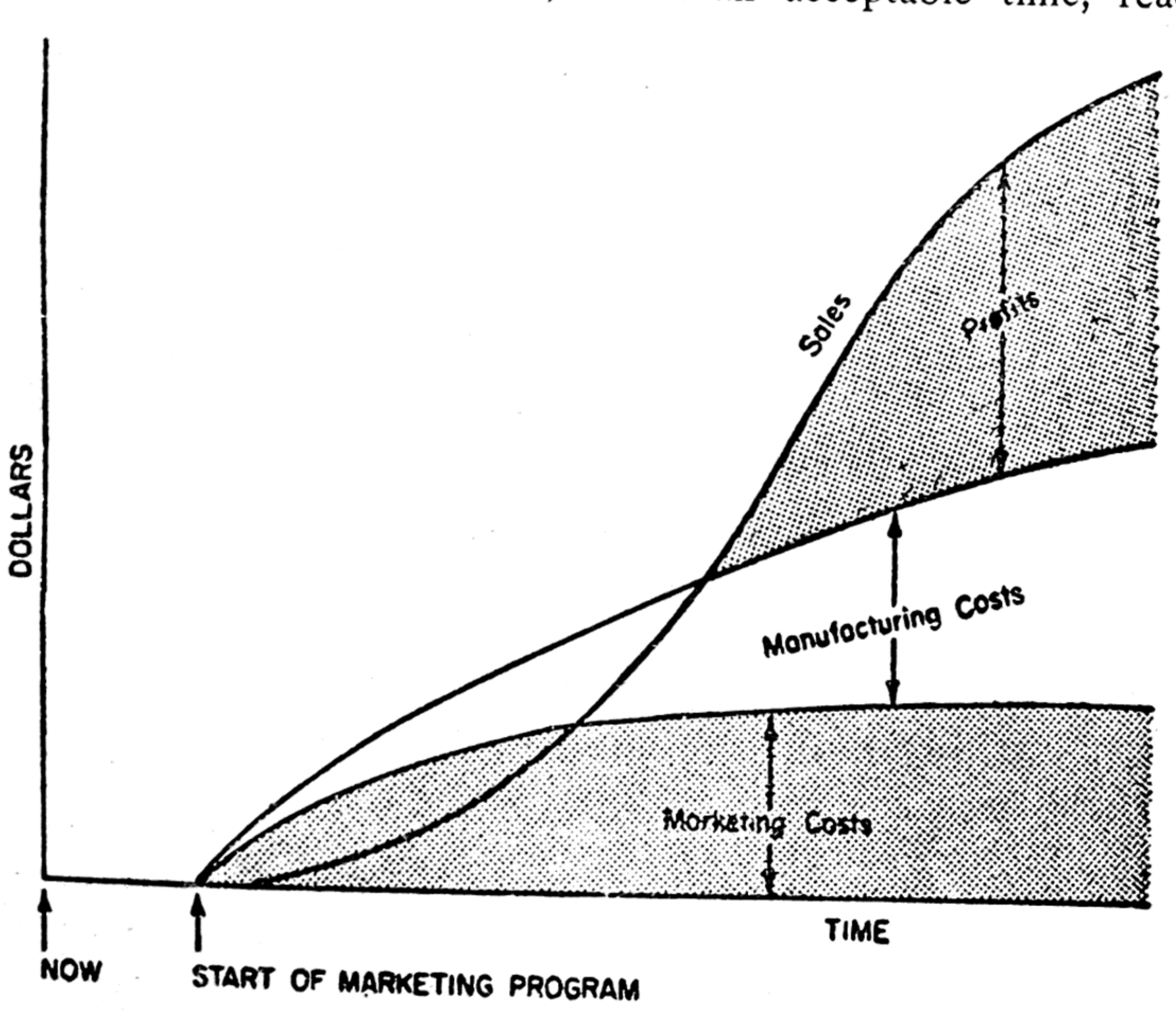


Figure 10
Sales versus cost

point at which sales dollars are sufficient to cover our marketing costs, our manufacturing costs, and provide us with an acceptable profit. I have shaded the profit area and the marketing cost area as they are the key points in today's discussion. Arriving at manufacturing costs is usually straightforward, and we are likely to know these within acceptable limits.

I've said nothing yet about forecasting our sales. Actually, we still are not in shape to forecast. There are likely to be more market possibilities than we can possibly go after within the limitations of our marketing facilities. Consequently, we must select from the alternatives facing us. It behooves us to consider very carefully the costs of attempting to develop the various markets, if we are to select the most attractive approach. Accordingly, on Figure 11, I've translated the previous figure into one depicting profit/effort relationship showing typical components of a marketing program for a plastic

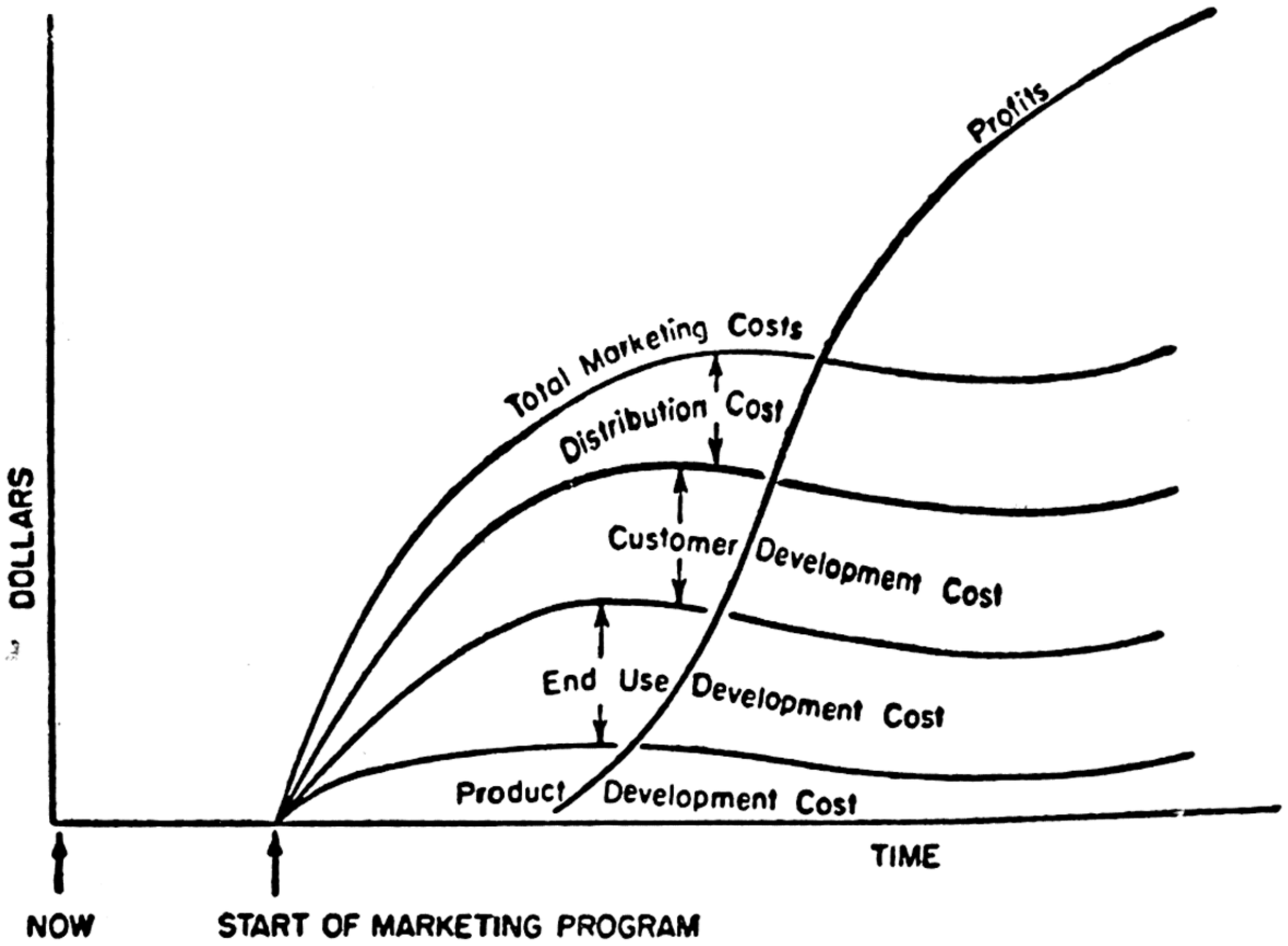


Figure 11
Profit/effort

resin, which add up to a total marketing cost which must be related to the total profits derived from sales volume achievable.

Considering the components of the marketing costs, we will, in the event we commercialize, undoubtedly have continuing costs associated with research on improving and modifying the product. I have indicated this on the figure as product development cost. There will be costs connected with working out ways in which to fabricate the end-use items. This is inevitable, even though we may not be making the actual end-use item ourselves. Our salesmen will be working with the customers, such as molders and extruders,

whose customers may be assemblers, as indicated on my first chart. Thus, there will be what I've called here customer development costs. There will also be distribution costs. Obviously, there can be wide variations in the compositions and costs of these individual components depending upon the particular end-uses involved and how we choose to engage in the market. For example, our immediate customers for a bag of molding powder may, in a captive sense, carry right through to the end-use area in some uses, and we, therefore, may have very minor costs involved in end-use development with some uses. In some areas a great deal of work may be required in this end-use area, with our immediate customers merely picking this up with very little effort on their part. Or, if the end-uses are predominantly in areas where a significantly new distribution approach must be involved, perhaps even to the extent that we have to be organized to handle distribution, this area may be of particular importance. Plastic pipe is an example here, where, if we elect to manufacture and distribute pipe and are not already in the pipe business, we will have real additional distribution costs. My point is that the specific end-uses must be studied individually and the profit. to result must be related to the efforts required in order to decide on our marketing program. Inevitably we will find that there are possibilities for selling the product, some of which might be quite substantial in volume, but in which there is not a very attractive profit-effort relationship, at least for early market development.

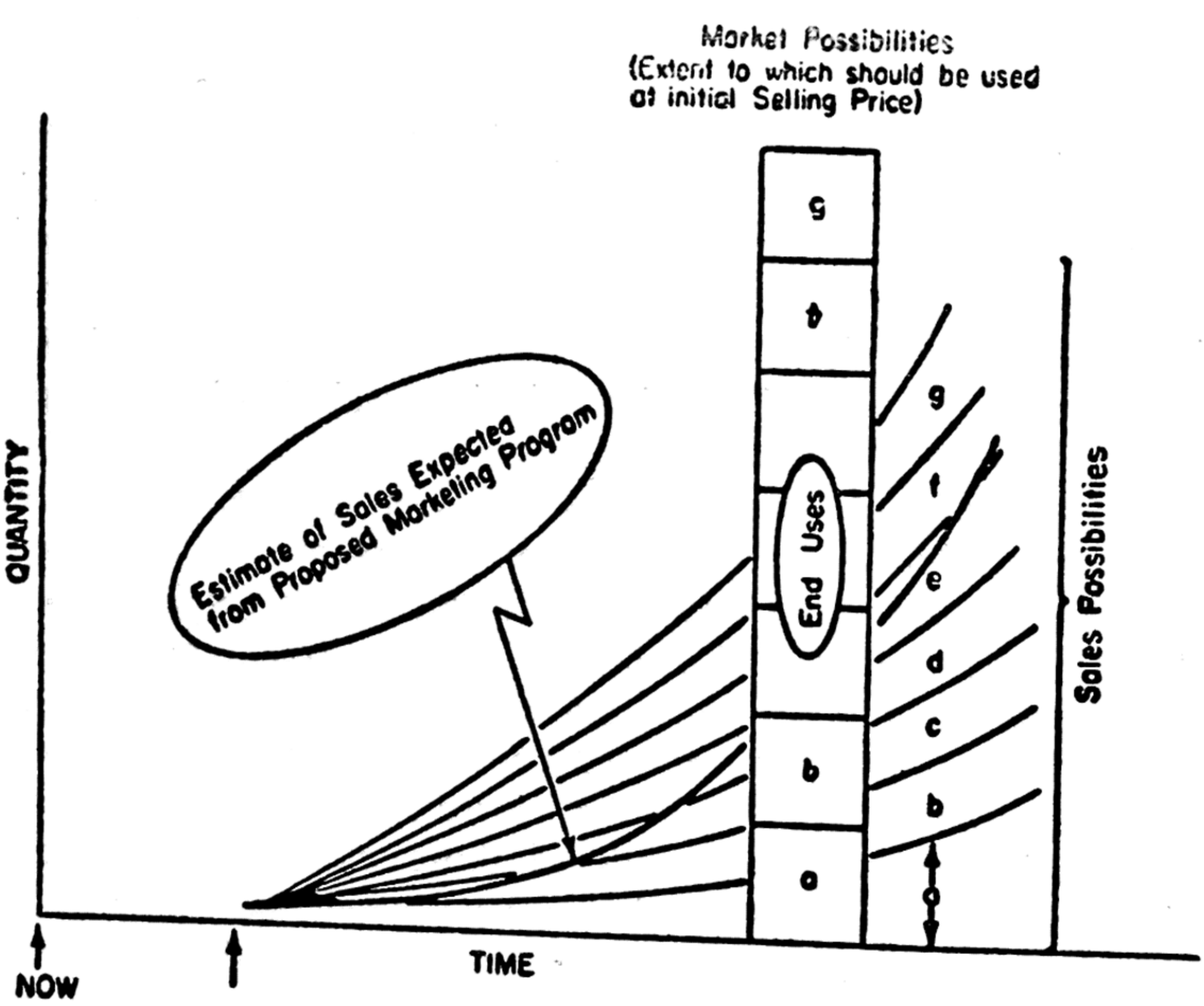


Figure 12
Projected sales result

So, let's assume that we have really "cased the joint"—looked over the various alternatives for sales possibilities—and have decided within the individual areas what we could accomplish if we went out to develop these areas. On Figure 12 I have put together these data from the standpoint of volume, where the bar shows the market possibilities—that is, the extent to which the product should be used at the initial selling price. The faint segments of the stacked line chart indicate, in an accumulative fashion, what we believe we can accomplish as time goes on in each of these end-use areas to give an over-all framework of total sales possibilities. Then, through a selection of the most attractive ones from the standpoint of profit in relation to effort, we have finally arrived at an estimate of the sales that we believe we can realize from our proposed marketing program involving the various components of product development, end-use development, etc. Finally, we have made a forecast—but you'll notice I've previously called it an estimate of sales. It can only become a forecast upon decision to commercialize.

Well, that covers a lot of territory and obviously a great deal of soul searching and rather precise considerations. We have a marketing program to propose to our management with the sales volumes to be expected and the profits to be expected. At first glance, it looks like our job is done, but I would like to bring up one further point which I feel is very important to recognize and build into the initial marketing program for this new product. The cost of doing it must be a component of the over-all marketing costs predicted. This is that we had better be sure that we have built into our program the procedure for a continuing evaluation of the progress of the venture. Although we have done everything within our power to predict results and plan our efforts, there is no question that we will face road blocks, and that as new information develops, we may have to make some rather profound changes in the way we operate. In other words we need to project while formulating the initial program, the procedure and the facility with which to carry out the procedure of continuing analysis of market position.

On the last figure (13) I have summarized the sales volume considerations previously developed but shown now in the form they will take if we commercialize the product and build its market. What I've done here is to "straw man" the position we will be in in the future (as indicated by the future "now" legend on the figure) from the standpoint of the marketing analysis requirements to assist the marketing organization in its continuing marketing decisions. Thus, I've divided our market possibility bar of extent to which the product should be used into three inevitable areas; namely, size of possibilities in uses already established, those under development but not yet established, and those not yet under development but still conceptually sound. Just as we are now faced with projecting the position we will be in as to initial selling price at the time of commercialization, we will at this future "now" time be faced with projecting a future market possibility at a possible lower price as scale of production may increase, and so the bar at

the right of the figure indicates this situation. I have flagged again the total of sales possibilities in light of these market possibilities, and have assumed we're up to date on the attractive areas to go after, and therefore, have put in the estimates of sales expected.

Now, you may ask why bother to show this future position requirement for analysis at the time we're designing the initial program? My reason is this—any continuing program on a new plastic resin comprises deployment of field salesmen to extend sales in established uses, the deployment of development technologists to get new markets started and, inevitably, the involvement of research and development technologists to test ideas and concepts for market soundness. And so, the opportunities to which these three stages of development are cued are separated in my figure. Of course, to be able to do this we must build into our marketing program an analysis procedure which will give us adequate knowledge of the stages of the end-use developments—and we'd better have it, with its costs, built right into our initial design.

I hope I've been able to lead you through my maze. Quite obviously what I have shown is a marketing analysis. Also, quite obviously, no single organizational segment of a marketing team can do the entire job. A variety of skills and experiences are required. In fact, what I have attempted to depict is the result of the entire marketing team's deliberations. Much of the factual market data can be developed by staff marketing research or market-

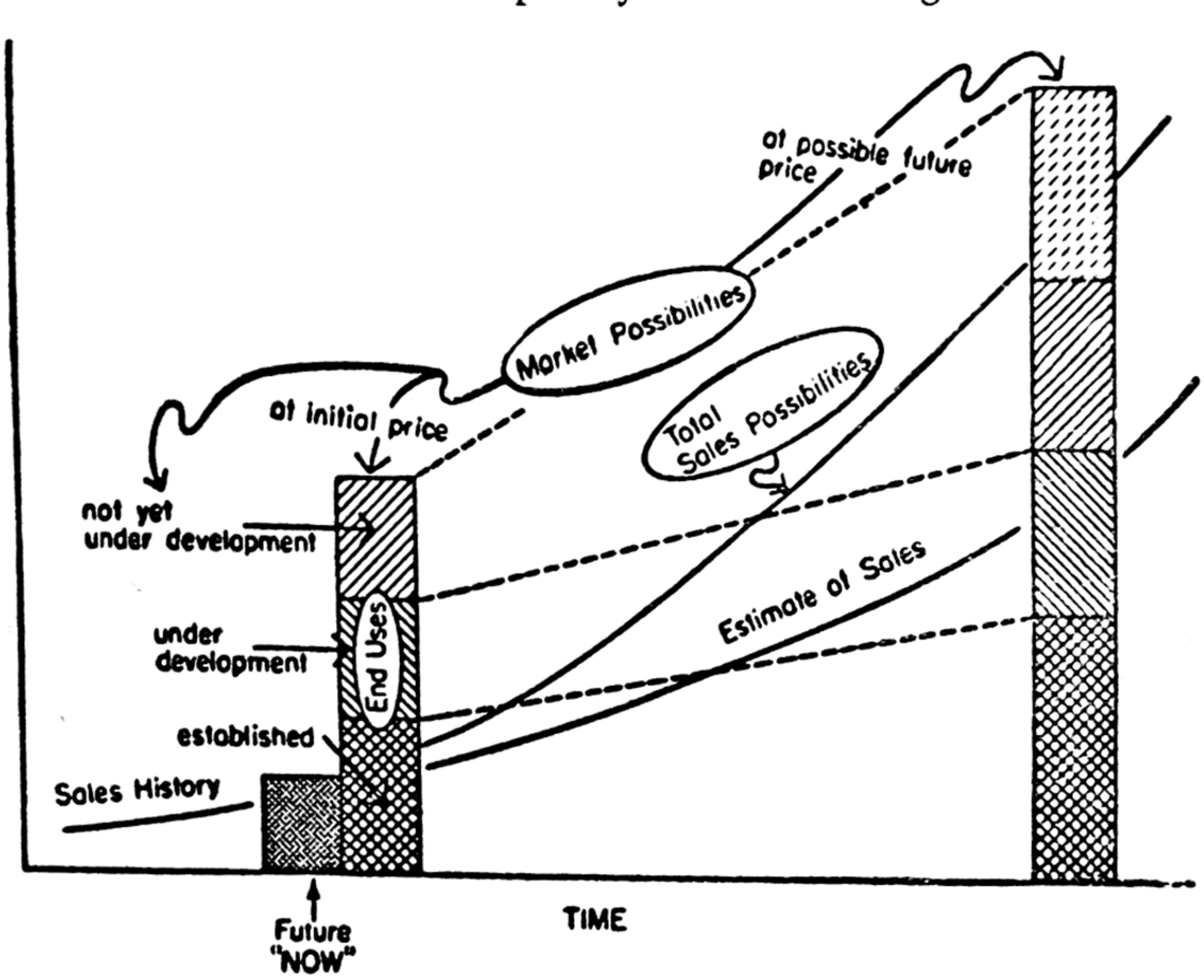


Figure 13
Position in event commercialization undertaken

ing analysis teams, but ultimately it takes the operating marketing people to say just how they will do it and what it will cost, and this is as it should be. They will be responsible for achieving the result and, accordingly, in my opinion, should say what they expect to achieve. The design of the marketing program for a new plastic product must certainly be a team effort.

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MARKETING Management Student
GGSIU

25/*Marketing Mix Decisions for New Products*

PHILIP KOTLER

Estimates of the profit potential for a new product will be affected greatly by the marketing mix thought to be most desirable. In this article the author shows how the best marketing mix can be determined even when only limited information is available.

Companies are increasingly recognizing that new products are basic to their survival and growth. According to one study "it is now commonplace for major companies to have 50% or more of current sales in products new in the past ten years." [1]

At the same time, the development of new products is a costly and risky business undertaking. Some new product ideas turn out to be technically unfeasible after good money has been spent and others turn out to be commercially unsuccessful after still more good money is gone. As many as three out of four new products introduced on the market may fail to attain commercial success.

Thus management finds itself in a dilemma: it must develop new products and yet the odds weigh heavily against their success. The answer lies in making the innovation function a more rational process through administrative reforms and improved decision-making procedures. Management is coming to recognize the desirability of centralizing responsibility for overseeing the process in new product committees and departments. Furthermore, it is recognizing the need for better theory and decision procedures at each stage of the new product development process *(search, screening, profit analysis, product development, test marketing,* and *commercialization).* At each stage, a basic decision is called for on whether to abandon the project or continue it. The purpose of this paper is to describe a methodology for improved decision-making at the third stage, that of profit analysis.

THE PROFIT ANALYSIS STAGE

Suppose a new product idea has been screened and found to be compatible with the company's objectives and resources. The next task is to evaluate the profit potential of the product. In practice, this evaluation tends to be

SOURCE: From *Journal of Marketing Research,* vol. 1, February, 1964, pp. 43-49. Philip Kotler: Assistant Professor of Marketing, Northwestern University.

conducted in the following manner. On the basis of inspiration or previous research, management develops a particular conception of product attributes and a marketing program for the new product. Based on this specific conception of the marketing mix, management develops two different estimates. One is an estimate of the required sales volume to break even. The other is an estimate of the sales volume which is likely to be stimulated by the marketing mix. If the sales potential estimate comfortably exceeds the break-even volume estimate, the product idea is judged to be profitable. If profits promise to be large in relation to the required investment, the product idea is likely to pass to the fourth stage, that of product development.

Yet a more refined model for the analysis of new product profit potential is both desirable and practical. Instead of considering only one marketing mix and whether break-even volume is likely to be achieved under it, the more refined model provides for a simultaneous evaluation of the profit potential of several marketing mixes. The refined model can be illustrated by the following example:

The ABC Electronics Company is a small manufacturer of transistors and clock radios and is presently engaged in reviewing other electronic products for possible addition to the product-line. One of these is a small portable tape recorder. Small novelty tape recorders have appeared recently on the market, and they retail at prices between $20-$50. The company's marketing research department has surveyed the market and found that interest in this type of unit is substantial and growing.

An executive committee is appointed to examine the potential profitability of this product. The production department estimates that $60,000 would have to be invested in specific new equipment and facilities and that this investment would have an estimated life of five years. The accounting department submits that the product would have to absorb $26,000 a year of general overhead to cover the value of supporting facilities, rent, taxes, executive salaries, cost of capital, etc. The marketing department advises that the product be supported initially with an advertising budget of approximately $20,000 and a personal selling budget of approximately $30,000 and furthermore that it should be priced at approximately $18 F.O.B. factory with no quantity discounts. Finally, the various operating departments estimate that the new product would involve a direct material and labor cost of $10 a unit.

In the light of these estimates, should the ABC Electronics Company develop this new product? Is the marketing mix proposed by the marketing department sound?

What Is the Break-Even Volume?

The first step in the business analysis of a new product idea is to estimate how many units would have to be sold in order to cover costs. This break-

even volume is found by analysing how total revenue and total cost vary at different sales volumes.

Total revenue at any particular sales volume is that volume times the unit price adjusted by allowances for early payment, quantity purchases, and freight. The adjustments are fairly straightforward and total revenue as a function of sales volume is generally simple to estimate.

The total cost function is more difficult to estimate. Total costs often bear a non-linear relationship to output. It is difficult enough to establish the shape of the total cost function for existing products because the statistical data are impure; the total cost function for a new product is even more difficult to estimate because the statistical data are non-existent. But as a practical matter, the break-even analyst usually assumes a linear total cost function. This assumption may be faulty for very low and very high levels of output but may be sufficiently accurate for intermediate levels, according to some recent statistical cost studies [3].

The total cost function is composed of variable and fixed cost elements. In the example, variable costs are assumed to be constant at $10 a unit. The following fixed costs are found in the example. The tape recorder requires additional fixed investment of $60,000 with an estimated life of five years. On a straight line basis, this amounts to an annual depreciation cost of $12,000. The new product is also charged $26,000 a year for its share of general overhead. This figure presumably represents a long-run estimate of the opportunity value of the corporate resources required to support this new product. In addition, the company is considering an annual expenditure of $20,000 on advertising and $30,000 on personal selling. Fixed costs, therefore, add up to $88,000 ($12,000 + $26,000 + $20,000 + $30,000).

The break-even volume can now be estimated. At the break-even volume (Q_B), total revenue (TR) equals total cost (TC). But total revenue is price (P) times the break-even volume and total cost is fixed cost (F) plus the product of unit variable cost (V) and break-even volume. In symbols:

$$TR = TC$$
$$P \cdot Q_B = F + V \cdot Q_B$$

Combining similar terms, and solving for Q_B, we find that

$$Q_B = \frac{F}{P - V}$$

P — V is the difference between price and unit variable cost and is called the unit contribution to fixed cost. It is $8 in the example. The company would have to sell 11,000 units ($88,000 ÷ $8) to cover fixed costs.

At this point it would be useful to express the break-even (Q_B) not as a constant but rather as a function of the elements in the marketing mix. The break-even volume will vary with the product price and the amount of marketing effort devoted to the new product:

$$Q_B = \frac{\$12{,}000 + \$26{,}000 + A + S}{P - \$10} = \frac{\$38{,}000 + A + S}{P - \$10}$$

where A = advertising budget
S = sales budget
P = unit selling price to wholesaler

In Table 1, eight alternative marketing programs are

TABLE 1

Minimum Volume Requirements as a Function of Marketing Mix

	Some possible marketing mixes			*Break-even volume* Q_B
	Price	*Advertising*	*Sales budget*	
1.	$16	$10,000	$10,000	9,667
2.	16	10,000	50,000	16,333
3.	16	50,000	10,000	16,333
4.	16	50,000	50,000	23,000
5.	24	10,000	10,000	4,143
6.	24	10,000	50,000	7,000
7.	24	50,000	10,000	7,000
8.	24	50,000	50,000	9,857

listed for this product along with the implied break-cven volumes. In the case of mix # 5, the company could sell as few as 4,143 tape recorders to break-even; while in the case of mix # 4, the company would have to sell as many as 23,000. This high sensitivity of the break-even volume to the marketing mix decision is often overlooked in profit analysis.

The eight marketing mixes in Table 1 are a small sample from the very large number of mixes which could be used to market the new tape recorder. They were formed by assuming a high and low level for each of the marketing variables and elaborating all the combinations. Suppose executive opinion held that $16 is a price on the low side while $24 is a price on the high side; and that $10,000 is a low budget for advertising and personal selling respectively, and $50,000 is a high budget. This yields eight strategy combinations ($2.2.2 = 2^3$) and makes the marketing mix problem manageable.

Each mix is a polar case. For example, mix #1 represents the common strategy of setting a low price and spending very little for promotion. This works well when the market is highly price conscious, possesses good information about available brands, and is not easily swayed by psychological appeals. Mix # 4 represents a strategy of low price and heavy promotion. The interesting thing about this mix is that it produces a high sales volume but also requires a high sales volume to break-even. Mix # 5 consists of a high price and low promotion and is used typically in a seller's market where the firm wants to maximize short-run profits. Mix #8 consists of a high price supported by high promotion; this strategy is often used in a market where buyers are sensitive to psychological appeals and to quality. The other mixes (# 2, 3, 6, 7) are variations on the same themes, with the additional

feature that different assessments are made of the comparative effectiveness of advertising and personal selling. But it should be noted that while the division of a given budget between advertising and personal selling affects the actual sales volume, it does not affect the break-even volume.

Different marketing mixes not only imply different break-even volumes, but also differences in the sensitivity of profits to *deviations* from the break-even volume. For example, the break-even volume is approximately the same for mixes # 1 and # 8. Yet the high price, high promotion character of # 8 promises greater losses or greater profits for deviations from the break-even volume. This is because there are higher fixed costs under mix 8 but once they are covered, additional volume is very profitable because of the high price.

Break-even analysis is necessary, but not sufficient by itself to identify the optimal marketing mix. It indicates what volumes have to be achieved but does not indicate what volumes are likely to be achieved. Missing is an account of how various elements in the marketing mix will affect the actual volume of sales.

Ideally the company requires a demand equation showing sales volume as a function of price, advertising, personal selling, and other important marketing mix elements. Such equations are difficult enough to derive for established products where there are historical data, let alone for new product ideas where there are none. Yet though the product is only an idea at this stage, there are some research procedures which can yield useful information for estimating sales. A survey could be made of the attitudes and interests of various consumers toward alternative product features and prices. It might help to develop some prototypes of the tape recorder in order to get firsthand reactions. The survey may indicate what socio-economic groups constitute major prospects for this product. The approximate number of persons in each prospect group can be estimated from census data. In addition, an analysis can be made of the relative strength of competitors in different segments of the market. Since information is expensive to collect, a Bayesian analysis of the value of specified types of additional information should be performed at each juncture [2].

Through this type of research and analysis, the executives will have a better idea of what sales volumes are likely to be achieved with different marketing mixes. For each particular mix, the executives can develop a subjective probability distribution of possible sales volumes. The mean of this probability distribution shows the expected sales volume for this marketing mix. Let the expected sales volume be denoted by Q. The fourth column in Table 2 shows an (hypothetical) expected sales volume for each of the eight marketing mixes. It should be noted that sales are expected to move inversely with price and directly with the amounts spent on advertising and personal selling. However, increased promotion is expected to increase sales at a diminishing rate.

What Is the Best Marketing Mix and the Implied Profit Level ?

At this point, the expected volume (Q) and the break-even volume (Q_B) can be compared for each mix. The results are shown in column 6 of Table 2. The greatest extra volume ($Q-Q_B$) is achieved with mix #1. But extra volume is not a sufficient indicator of the best mix. The extra volume must be multiplied by the unit value (P — V). A high price mix delivering a small extra volume may be superior to a low price mix delivering a large extra volume. Therefore $Z = (P - V) \cdot (Q - Q_B)$ has to be calculated for each marketing mix. These results are shown in column 7 of Table 2.

Z is a measure of the absolute profits expected from different marketing mixes. Of the mixes shown in Table 2, mix # 5 appears to promise the largest amount of profit. This mix calls for the product to be sold at a high price with little promotional support. This strategy is often used when a company believes its product has been smartly designed and essentially sells itself. But before ABC Electronics can be sure that it has found the best marketing mix, or that the product should be produced at all, it must examine some addi tional issues.

1. *The profit estimates for the eight marketing mixes may not be equally reliable.* The profit estimates were derived from prior cost and sales estimates. Management may have a varying amount of confidence in these different estimates. Suppose management has much more confidence in its sales estimate for marketing mix # 6 than # 5. This greater confidence may arise because the executives have more experience in using strategy 6. The choice they face is between a highly uncertain profit expectation of $18,998 and a more certain profit expectation of $16,800. Most managements have a risk aversion and are willing to accept a strategy with a lower expected profit if the accompanying risk is sufficiently less. However, the specific amount of trade-off of expected profits for risk reduction will vary among managements.

TABLE 2

A Comparison of Expected Volume (Q) and Break-Even Volume (Q_B) For Various Marketing Mixes

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Marketing Mix				Volume above Break-even	Absolute Profits
P	A	S	Q	Q_B	$Q-Q_B$	$Z=(P-V)(Q-Q_B)$
1.	$16	$10,000	$10,000	12,400	9,667	2,733	$16,398
2.	16	10,000	50,000	18,500	16,333	2,167	13,002
3.	16	50,000	10,000	15,100	16,333	—1,233	—7,398
4.	16	50,000	50,000	22,600	23,000	—400	—2,400
5.	24	10,000	10,000	5,500	4,143	1,357	18,998
6.	24	10,000	50,000	8,200	7,000	1,200	16,800
7.	24	50,000	10,000	6,700	7,000	—300	—4,200
8.	24	50,000	50,000	10,000	9,857	143	2,002

How can management's taste for risk be measured and introduced into the formal analysis? There are at least two different ways to accomplish this. One is through the preparation of an indifference map in which management expresses its preferences between different combinations of expected profit and risk. Let us recall that in considering each marketing mix, management developed a subjective probability distribution of possible sales outcomes. Only the mean, Q, of the distribution was used. Now assume that the standard deviation of this distribution is used as a measure of risk. A low standard deviation means that management is fairly sure of the sales outcome and a high standard deviation means that management is very unsure. The standard deviation of the profit estimate can be calculated from the standard deviation of the sales estimate[1]. Let us use σ_z to denote the standard devia-

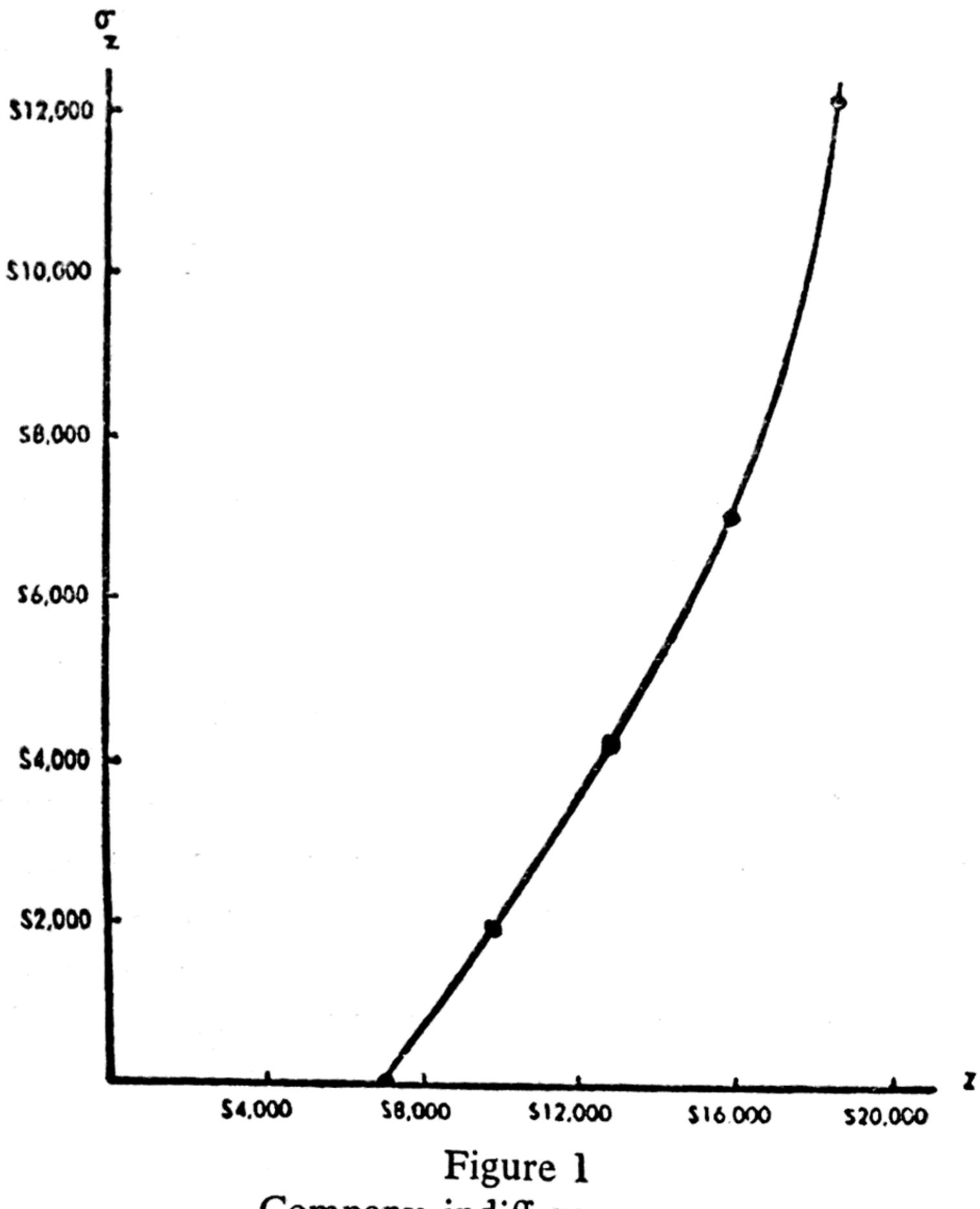


Figure 1
Company indifference curve
for expected profit (Z) and risk (σ_1)

[1]Expected profit is given by $Z=(P-V)(Q-Q_B)$ Suppose both Q and Q_B are estimated with some uncertainty. The uncertainty of Q reflects the difficulty of estimating sales; and the uncertainty of Q_B the break-even volume, reflects the difficulty of estimating costs. Suppose further that the degree of uncertainty in estimating sales is independent of the degree of uncertainty in estimating costs. Let σ_q and σ_{q_B}, the

tion of estimated profit. Let (Z, σ_z)* represent the expected profit and standard deviation of profit, respectively, of the marketing mix with the highest Z; in our example, this is mix # 5 and assume it is ($18,998, $12,000). Then management can be asked to list other (Z, σ) such that it is indifferent between them and (Z, σ)*. For example, management may be indifferent to ($18,998, $12,000), ($16,000, $6,800), ($13,000, $4,200), ($10,000 $2,000), and ($7,000, $0). An indifference curve has been fitted through these sample points in Figure 1. The region to the left of this curve consists of inferior profit situations while the region to the right of this curve consists of superior profit situations. Then the (Z, σ_z) for the other marketing mixes can be plotted. If these points all plot in the inferior region, then mix # 5 remains the best mix, subject to further qualifications. If any points plot in the superior region, the foregoing procedure can be repeated to establish a new indifference curve to the right of the old one and the remaining contending points can be tested again.

If management has difficulty in thinking of risk in terms of standard deviations, an alternative procedure can be used instead. Management can be asked to express its preferences between various gambles where the risks are stated. The preferences become the basis for preparing a corporate utility scale for various money sums. For a management with risk aversion, the chance to earn twice the profit tends to carry *less* than twice the utility. For each marketing mix, the possible profit outcomes are re-stated as utility outcomes. Then the probabilities are used to find the expected utility for that marketing mix. The best marketing mix can be defined as the one with the maximum expected utility [5].

2. *The absolute profit estimates for the eight marketing mixes must be converted into rates of return on investment in order to choose the best marketing mix and to decide whether to develop the new product at all.* For example, management estimates that 5,500 units will be sold in the first year with marketing mix # 5 and 8,200 units will be sold with marketing mix # 6. But mix # 6 will tie up more dollars than mix # 5 because production, inventory and marketing are carried out on a larger scale. For each mix Z should be expressed as a ratio to the required investment. Mix # 5 is still likely to stand out as the best choice in the example. But now a second question also can be answered: is the expected rate of return greater than the company's target rate of return? The company is not likely to develop a new product whose expected rate of return falls short of the target rate.

3. *The use of expected profits ignores the variability and duration of profits implied by different initial marketing mixes.* At the outset, it should be

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standard deviations, represent the respective degrees of uncertainty. Then σ_z, the standard deviation of profit, can be derived by applying elementary theorems on variances. Specifically, $\sigma^2_{ax} = a^2\sigma^2$ and $\sigma^2_{x+y} = \sigma^2_x + \sigma^2_y$. Applying these theorems to $Z = (P - V)(Q - Q_B)$, $\sigma_B = (P - V)\sqrt{\sigma^2_q + \sigma^2_{q\,B}}$

emphasized that management is *not* trying to determine a permanent marketing mix to be used over the lifetime of this product. Both costs and sales will change over time because of competition, market saturation, business fluctuations, and the like. The company may start with mix # 5 and if strong competition enters the market with a reduced price, the ABC Electronics Company may find it expedient to change its mix. It may reduce its price and/or change its promotion. Either reaction is tantamount to adopting a new marketing mix.

By examining different marketing mixes in the profit analysis stage of new product development, the company is trying to ascertain an initial strategy and its implied initial profit level. Thus $18,998 represents the amount of profits expected in the first year with mix # 5. The company is interested in discovering the strategy which will enable it to recover as much cost as possible as soon as possible because of the difficulty of foretelling the fate of the product beyond a few years. Yet it is also a fact that the initial marketing mix can have an important effect on the company's long-run success with this product. A low price medium promotion mix like # 2 in creating a high initial sales volume, tends to bring about an earlier saturation of the market and hence a shorter period of profits. Mix # 5, because it employs a high price and brings high profits, is likely to induce an early influx of competition which also tends to shorten the period of good profits. The long-run implications of the initial mixes must be considered. The solution ultimately may lie in simulating on a computer different time sequences of mix decisions under alternative assumptions and events to derive some indication of alternative profit-possibilities.

4. *The previous analysis assumes that no marketing mix has been overlooked which might yield a higher expected profit than the eight listed mixes.* The sales estimates (Q) in Table 2 can be viewed as a sample from a larger universe of executive opinion concerning the functional relationship $Q = f(P, A, S)$. It may be possible to find an equation which closely describes these estimates. The equation could then be solved to estimate expected sales, and ultimately profits, for marketing mixes which were not explicitly considered by the executives. For example, a plausible mathematical form for demand functions is the multiple exponential:

$$Q = kP^a A^b S^c$$

where k = a scale factor
a = the price elasticity
b = the advertising elasticity
c = the personal selling elasticity

The multiple exponential equation has provided a useful fit in several demand situations [4]. This form fits quite well the sample values of (Q) in Table 2. This is more by design than by accident. The least squares equation is

$$Q = 100{,}000\, P^{-2} A^{1/8} S^{1/4}$$

Price has an elasticity of — 2, that is, a one per cent reduction in price, other things equal, tends to increase unit sales by 2 per cent. Advertising has an elasticity of 1/8 and the sales budget has an elasticity of 1/4. The coefficient 100,000 is a scale factor which translates the dollar magnitudes into the appropriate physical volume effects.

Several of the preceding equations can now be drawn together:

$$Z = (P-10)(Q-Q_B) \qquad \text{(1) profit equation}$$

$$Q = 100{,}000\, P^{-2} A^{1/8} S^{1/4} \qquad \text{(2) demand equation}$$

$$Q_B = \frac{38{,}000 + A + S}{P-10} \qquad \text{(3) break-even volume equation}$$

The best marketing mix was defined initially as the one which maximized Z, that is, profits. Solving equation (1) in terms of (2) and (3), Z can be re-written as:

$$Z = (P-10)\left(100{,}000\, P^{-2} A^{1/8} S^{1/4} - \frac{38{,}000 + A + S}{P-10}\right)$$

$$Z = (P-10)(100{,}000\, P^{-2} A^{1/8} S^{1/4}) - 38{,}000 - A - S$$

$$Z = 100{,}000\, P^{-1} A^{1/8} S^{1/4} - 1{,}000{,}000\, P^{-2} A^{1/8} S^{1/4} - 38{,}000 - A - S \qquad (4)$$

Thus Z is a function of three marketing variables.

The next step is to find that unique set of values of P, A, and S which maximizes Z in (4). This is a problem in differential calculus. The work is carried out in the appendix where the following values emerge:

$$P = \$20$$
$$A = \$12{,}947$$
$$S = \$25{,}894$$
$$Z = \$26{,}735$$

It is interesting to compare this mix with mix # 5 which yielded the highest Z of the eight mixes considered in Table 2. Mix # 5 called for a price of $24 and an advertising and sales budget of $10,000 each. The new calculation calls attention to the possibility that a somewhat lower price, a slight increase in advertising expenditure, and a substantial increase in personal selling expenditure might boost profits by several thousand dollars. Thus it may be possible to employ mathematical analysis to overcome the limitations of considering only a small set of marketing mixes. Though we have illustrated this in terms of Z, a more complicated mathematical analysis can be prepared for finding the best marketing mix under conditions of uncertainty, different investment requirements, and more than three marketing variables.[2]

[2] It possesses a number of plausible properties. First, it provides that the effect of a specific marketing variable depends not only upon its own level but also on the levels

SUMMARY AND CONCLUSIONS

The overall challenge of new product development is to weed out the impracticable ideas as early as possible and to process the remaining ideas as efficiently as possible. The profit analysis stage is where a product idea which has been found to be compatible with the company's objectives and resources must be analysed for its profit potential. It is not sufficient to confine the analysis to one specific conception of how the product will look and be marketed, though this is the typical practice. For the marketing mix will influence both the costs and the sales of the new product, and it is not obvious in advance which mix will maximize expected profits.

The method outlined in this article requires management to develop estimates of likely costs and sales under different marketing mixes on the basis of the best available information. These estimates become the raw data in an analysis which seeks to determine the best marketing mix and whether this mix promises a sufficient level of profits, in the face of uncertainty and the required investment, to justify developing the product. Admittedly there is no way to prove that the suggested analysis does in fact lead to better decisions at the profit analysis stage. Its claim is that it calls attention to the relevant factors and outlines a systematic way to consider them.

APPENDIX

The objective is to find the unique set of values of price (P), advertising (A), and personal selling (S), which maximize profits (Z) in the equation :

$$Z = 100{,}000P^{-1}A^{1/8}S^{1/4} - 1{,}000{,}000P^{-2}A^{1/8}S^{1/4} - 38{,}000 - A - S \quad (1)$$

First find the first three partial derivatives of Z and set them equal to zero :

$$\frac{\delta Z}{\delta P} = -100{,}000P^{-2}A^{1/8}S^{1/4} + 2{,}000{,}000P^{-3}A^{1/8}S^{1/4} = 0 \quad (2)$$

$$\frac{\delta Z}{\delta A} = 12{,}500P^{-1}A^{-7/8}S^{1/4} - 125{,}000P^{-2}A^{-7/8}S^{1/4} - 1 = 0 \quad (3)$$

$$\frac{\delta Z}{\delta S} = 25{,}000P^{-1}A^{1/8}S^{-8/4} - 250{,}000P^{-2}A^{1/8}S^{-8/4} - 1 = 0 \quad (4)$$

Rearrange the terms in (2):

$$\frac{\delta Z}{\delta P} = 100{,}000P^{-2}A^{1/8}S^{1/4}\,(20P^{-1} - 1) = 0 \quad (2a)$$

Assuming that $P \neq \infty$, $A \neq 0$, and $S \neq 0$, it follows that $(20P^{-1} - 1) = 0$ or

$$P = \$20 \quad (5)$$

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of the other marketing variables. Thus a price of $16 will have one demand effect if advertising and selling are each set at $10,000 and another if advertising and selling are each set at $50,000. This interdependency does not exist with linear equations. Second, the exponential equation shows diminishing marginal returns to increases in the advertising and sales budgets and this accords with intuitive expectations. Finally, the exponents represent the respective elasticities of the marketing variables, provided there is no intercorrelation between the independent variables.

Next, rewrite (3) and (4):

$$12{,}500P^{-1}A^{-7/8}S^{1/4}(1-10P^{-1})=1 \quad (3a)$$

$$25{,}000P^{-1}A^{1/8}S^{-3/4}(1-10P^{-1})=1 \quad (4a)$$

Divide (3a) by (4a), term for term:

$$1/2\ A^{-1}S = 1$$

$$S = 2A \quad (6)$$

Next substitute (5) and (6) in (3a):

$$12{,}500(20^{-1})(A^{-7/8})(2A)^{\frac{1}{4}}[(1-10(20^{-1})]=1 \quad A = \$12{,}947 \quad (7)$$

Substitute (7) in (6):

$$S=2(12{,}947) = \$25{,}894 \quad (8)$$

The optimal marketing mix (P, A, S) is ($20, $12,947, $25,894). The executives would forecast that this mix would produce a sales volume of:

$$\begin{aligned} Q &= 100{,}000-2A^{1/8}S^{1/4} \\ &= 100{,}000(20^{-2})(12{,}947^{1/8})(25{,}894^{1/4}) \\ &= 10{,}358 \end{aligned}$$

The break-even volume implied by this mix would be:

$$\begin{aligned} Q_B &= \frac{38{,}000+A+S}{P-10} \\ &= \frac{38{,}000+12{,}947+25{,}897}{20-10} \\ &= 7{,}684 \end{aligned}$$

Finally, profits (Z) under the optimal mix would be:

$$\begin{aligned} Z &= (P-V)(Q-Q_B) \\ &= (20-10)(10{,}358-7{,}684) \\ &= \$26{,}735 \end{aligned}$$

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26 / *The Man in the Package*

ERNEST DICHTER

Marketing management must take an increasing interest in packaging since more than mere product protection is involved. Its role as a salesman is vital. This report defines the characteristics of a well-designed package from the consumer's point of view.

OUR VANISHING SALESMAN

Aside from the product itself, the most personal contact a manufacturer has with his customers today is the package that contains his product.

This means that the package has a difficult job to do. It must replace the living, breathing salesman as a vital link between the manufacturer and consumer.

More and more, the trend in selling goods is toward self-service. Not only is this true in supermarkets, but also in five-and-dime emporiums, clothing establishments with pipe racks, and an ever-growing variety of stores and shops. The salesman simply isn't there any more. And as we get further and further into the era of the Vanishing Salesman, the role of the package *as a salesman* becomes more prominent and more urgent.

Many packaging designers and manufacturers are already aware of the personal character of the package-consumer relationship. At a recent seminar held by the Paraffined Carton Research Council, it was evident that designers and makers of packages are no longer content to view the successful package as one that mainly gives them a feeling of pride about their contributions to the finished article. The successful package was not seen merely as one with an intriguing shape or design, but as one whose overall design, shape, color, and printed message delivered an impact that resulted in a personal relationship between the consumer and the package on the shelf.

Today the package must come alive at the point of purchase. The salesman may no longer be visible behind the counter, supplying a necessary living element in the selling process. But he is present, just the same.

He has stepped inside the package.

Formerly, a manufacturer had little control over the salesmen who represented his product in retail stores. They were jolly or grumpy, inept

SOURCE : Seventeen-page booklet published and copyrighted 1957 by the Paraffined Carton Research Council. Ernest Dichter : President, Institute for Motivational Research, Inc., Croton-on-Hudson, New York.

or skillful, pleasant or not, courteous or not—depending on the weather or the season or the state of their nerves.

The salesman in the package presents no such problem. He is yours to create and control.

A poorly designed package tells the consumer that the maker of the product does not care. Like an impatient salesman at five minutes before closing time, he is saying "take it or leave it." But a well-designed package is proof that the manufacturer really cares about both the customer and the product and is willing to make an extra effort to please. He is employing a friendly, interested salesman.

Just what is a well-designed package? According to research, the consumer himself is the measure of a good package.

If you ask him, every consumer has a picture of the ideal package in his head. This is not simply a picture of how the package looks: it is a dramatic visualization of how it feels as he turns it around in his hand, of how it fits into his medicine chest or pantry, and of how easy it is to get at the product inside when he really needs it.

Through his emotional needs, the consumer sets up very demanding standards of good packaging. These may be listed as follows:

Convenience. Does the package hold enough of the product to satisfy his needs without being too bulky or too heavy?

Adaptability. How well does the package fit into his freezer, cupboard, glove compartment, or dresser drawer?

Security. Does he feel assured that you have given him quality? Does the package make him feel it?

Status or Prestige. Does he feel that by buying your package he is expressing something about himself?

Dependability. Does the package let him feel that he can rely upon you, the manufacturer?

Esthetic Satisfaction. Is he pleased and satisfied by the impact of the design, color, and shape of the package?

Actually these six criteria can be described simply as combining utility, security and esthetic appearance. This quotation from the mother of a young perfume purchaser is an example of the practical application of these criteria:

My daughter has a perfume now that, God bless her, she can use without getting it on the floor or all over her dressing table. She used to have (name of brand) and (name of brand). One she had to shake so hard to get the perfume out that she said it gave her a charley-horse. The other one had such a big hole that whenever she used it she couldn't control it, and it spilled all over, and the whole house smelled. This new kind, now, has just the right kind of hole. And the box is so good-looking, and the bottle is so swanky. You'd think it cost twenty dollars an ounce.

Here a young girl's "dream package" fulfills all the above criteria—with special emphasis on status. The desire for status is a consumer motivation that seems to be as vitally involved in the consumer-package relationship as in the purchase of any product from premium beers to Cadillacs. Status and other factors will be examined at length later when we consider the core of all successful packaging: *how well modern packaging meets the emotional and psychological needs of today's consumer,* as expressed in his daily purchasing patterns and his conception of the ideal package.

A good package does not create the personality of a product. Like a good cosmetic on a beautiful girl, the desirable package merely expresses personality in a dramatic, easily recognizable way.

On the other hand, a bad package or design contradicts, underplays, or undermines a product's personality.

These are important considerations, since the personality of a product is an important determinant of brand loyalty. And so this is the place to ask: "Just what is product personality and how is it affected by package design?"

Two Images Of Product Personality

Product personality consists of two parts that we can only isolate on paper. One is the *physical image,* the other is the *personality image.*

Physically a bar of soap is round, square, or octagonal; but in its personality image it may appear boldly masculine or softly feminine, modern or old-hat, of high status or low, light and delicate or heavy and coarse.

Although we have separated the two images here, the consumer never does so. He sees a unified image of the product's personality. And, significant for the package designer, any negative features of either image will affect the total picture in the consumer's head.

For example, some men might reject a bar of soap that was ovoid-shaped, strongly scented, and packaged in a frilly box. Too effeminate, they would say. But they might accept the same soap if it were brick-shaped.

Other Elements of Packaging Design

Although shape of a product may affect a product's personality all alone, it often shares its influence with other important components of packaging such as color, text and illustration.

Designers and illustrators of great talent have presented consumers with cake mix packages in which the illustrated confection seemed so real, virtually dripping with sensory appeals, that the consumer could "taste" the cake when he saw the package on the supermarket shelf. Unfortunately, there are other cake mixes in which the package fails to express the true personality of the cake. Cake is a dessert that signifies abundance to most consumers (ice cream is another), but we often find the illustrated cake cramped on one side of the box, covering not more than 60 per cent of the surface.

In such a case, the best way to revive the cake's true personality is to

redesign the package, enlarging the illustration so that it "bleeds off" the box on both edges.

Design Can Correct Wrong Impression

Sometimes the consumer insists on misinterpreting a product's personality in spite of all a good designer can do.

When this happens, the goal of the packager must be to "change" the product's personality and thus alter the consumer's impression of it.

Tea used to be advertised in a way that reinforced the public's mistaken impression that it was a "weak sister" beverage suitable for sick people and kindly old ladies. Research showed that both the packaging and advertising copy needed to be converted to the masculine gender. This called for stressing the he-man quality of tea, and the use of the color red was recommended—replacing the weak blue previously seen in tea advertising.

In a margarine study, favorable consumer response occurred when the name of the brand was printed against the background of a green leaf while the margarine was represented as the disk of a daisy. This evoked an impression of naturalness, a desirable personality trait for margarine. But consumers formed a mistaken impression of another brand, which showed three pats of margarine encased in a cube of ice. They associated the ice cube with a test tube; the symbol evoked fear (of harmful chemicals) and led to rejection of the product.

Some designs can even prejudice the consumer against the quality of a product. Here is an instance of a Midwestern housewife's response to a margarine package:

> From the point of view of design, I like the (Brand X) box. (Brand Y) is too cluttered, too much to look at. It has more information and is easier to read but only if you're interested. But knowing oleo as I do, I would not stop to read and that's why I'd pick up (Brand X) because the quality seems to be better revealed in the package.

Here the consumer is providing a most direct guide to the designer. Such reactions are the rule rather than the exception, for margarine is a product about which the housewife feels she knows all there is to know.

Unified Trade Symbol Important

The aims of the most effectively designed package can be defeated if a unified trade symbol is lacking.

In a study of the advertising and promotion problems of a large paper products company, it was found that the use of different trade symbols, including different brand-name designs, for the premium-priced napkins and the lowest-priced napkins made the consumer associate the entire product in all price ranges with the more generally known trade symbol which appeared

on the *cheap napkins.* The suggestion of "cheap napkin" was carried over to even the highest priced product. Much of this confusion of product personality was due to the fact that the packaging of the premium item, besides lacking a unified quality trade symbol, did not provide a recognizable *quality differential*—either in color, text, typography, or brand-name design.

Changing a Product's Personality

People like to say they never judge a book by its cover. *But they do.*

In one study, coffee was served from different coffee makers including the most modern dripolators and the most antique coffee urns. Most of the drinkers said that the coffee poured from the antique urns tasted better. Actually it was the same coffee. This confirmed the fact that modern consumers believe that somehow things were better in the past—more wholesome, purer, etc. But more important, it indicated that the size, style and shape of the coffee container influenced the drinker's impression of the taste.

This ability of a package or container to modify the personality of a product was further shown in a study for a pharmaceutical company. The so-called potency rating of two different-sized pills was tested. Although the potency of the drug "packaged" in the larger pill was less than that in the smaller one, not only layman but also many doctors were fooled. The medical men insisted that the larger pill was the more potent !

Enhancing Status Through Packaging

Size is not always the important factor. Sometimes a new and more tasteful design, high in status value, can alter a product's personality and give it a prestige it never had before. Whiskey decanters designed by artists like Russel Wright and Walter Landor have given a new prestige to some of the cheaper whiskeys. These containers have turned up in the liquor cabinets of persons accustomed to serving only the higher priced whiskeys.

But this kind of "counterfeiting" involves risks that should be taken into account by packaging designers and manufacturers.

One investigation revealed that while, in many cases, the new decanters added prestige to the product, in a significant number of instances the consumer felt that expensive decanters forced manufacturers to "make up the difference" by using cheaper ingredients in the liquor.

However, the positive effects on sales produced by these new decanters should be seriously studied in any consideration of the sales potential that lies in the changing or enhancing of a product's personality.

The proof of the package comes the moment the consumer walks down the aisle of the supermarket. Either the package reaches out to him in a persuasive way, or it lies dead while its nearest and best competitor is chosen for the shopper's basket.

The consumer arrives in the supermarket lost in a fog of competitive claims that have been drummed into his head by newspapers, magazines,

radio, TV, and billboards. The similarity of these advertising appeals often arrests the development of a distinctive product personality; this fact is responsible for the widespread lack of brand loyalty among supermarket customers today.

It is up to the package designer, to a large extent, to attract the consumer to the particular product on the shelf. But first he must consider what has happened to the consumer's shopping experience.

The "New Angle" of Consumer Vision

Today's consumer doesn't see the product on the shelf the way he did ten or fifteen years ago. In the past the product was directly in the line of his vision, straight across the grocer's counter. When he viewed the product in the package, his eyes met it head-on and he could take in all the essentials at a glance. The package presented a clear-cut panel, with its brand name, colors, text, and shape easily visible.

But in today's supermarket, passing among palisades of parallel shelves filled with hundreds of products, the consumer sees mainly a gigantic blur of boxes and cans in which there are no outstanding elements. In this chaos a package must have prominent features of design that catch the eye, hold the attention, and initiate the dramatic interplay between package and patron that makes the package come alive in the customer's hand.

The problem is more complicated than it used to be because the strolling supermarket customer seldom sees many of the packages head-on as he did in the small grocery store. Nowadays his eyes meet the shelf at an angle and he cannot perceive a clear-cut front package panel. One edge of the box and part of one side intrude on the area of vision, breaking and weakening the impact.

In examining the packaging problems arising from this "new angle" of vision, designers and manufacturers might also take into account the phenomenon of *peripheral vision.* Here, in addition to new angles of perception there is also present the factor of diminished visibility. In peripheral vision, certain colors and designs are barely perceptible. Certain forms and shapes, effective when seen directly by the consumer, become distorted, confused, and weak in impact in the dim light and abnormal angles of peripheral vision.

These visual phenomena suggest new areas for exploration in packaging—in design, typography, color, shape—to assure successful impact from whatever angle the product is viewed by the consumer. Obviously the problem is a complicated one, both technically and psychologically, but many of our major packaging designers are already meeting the challenge of new merchandizing techniques.

To be successful a package must accomplish the following things when it is on display:

a. It must achieve a "reaching out" quality.

b. It must provoke uninterrupted inspection by the consumer.

c. It must "disappear" and permit the consumer to rehearse the purchase and use of the product.

The "Reaching Out" Quality

Consider the Cheer detergent box. A design with dynamic action— clean wash flapping in the breeze. A bold color scheme of blue, red, white and yellow. The result is a package that seems to cry, "Look at me? You can't help yourself? Pick me up and find out what I've got for you?"

It almost reaches out and taps you on the shoulder.

The Log Cabin Syrup can has much the same quality because of its unusual shape. There is no possibility that the supermarket shopper will mistake it for another brand, or fail to find it as his eye scans the shelf.

The package on the shelf must provide tension-producing design factors that cause the consumer to interact with it from a distance. Through its design, color, or some other outstanding feature, it must break through the brand fog created by the many competing products.

Tension-producing design is particularly important for ice cream cartons. The brick shape can be adapted to designs which aid in creating an impression of richness and plenty. Here is where the designer plays a vital role. A design with swirling movements, and a run-over to the sides of the carton, is capable of creating such a psychological illusion of richness and fullness.

> "X Brand of ice cream comes in that nice square box but it doesn't look like the ordinary box of brick ice cream," said a West Coast mother of four children. "It has a lot of blue and pink polka dots on it, running around all four sides. It makes it look so rich and so full."

This, again, illustrates that physical form can win consumer acceptance —but it must be supplemented with design which projects emotional understanding.

Uninterrupted Inspection

The package that reaches out to the consumer does not always wind up in the shopping basket. It must have just enough design tension—not too much—to clinch the sale.

Once the package is in the consumer's hand, the interaction between the two should be greatly accelerated. In the case of the Cheer package, the wash flapping in the breeze and the bright colors combine to give movement to the entire package and provide *unity of design.*

This non-static design, with the brand name, copy, and colors creating a directional movement, offers *sequence* and dimension, a natural rhythm and flow from one component to another. It stimulates the shopper's three-dimensional investigation of the package rather than fixing his attention to any one part.

The Cheer design offers tension to a moderate degree. Research has shown that too much design tension over-excites the consumer so that he cannot "see" the product because of the package.

"This hand lotion has a gorgeous package—all tutti-frutti and tinsel," one shopper said. "No, I never tried the lotion. It's probably too rich for my blood."

A Packaging Paradox

It is clear that a package must not emphasize its own personality to the disadvantage of the product inside. In fact, the effective package must virtually "disappear" at some point in the purchase-and-use process. That is, it must disappear in the psychological sense of fading into the background while the product itself comes forward to become the "figure" that is seen, related to, and remembered by the consumer.

Sometimes, but not always, this means that an effective package should be made of transparent materials. Often the reverse is true. When we buy sausages at a meat department we want the package to fade into the finished product—the hot, crisp, aromatic meat—and not into the cold and greasy food we see through the plastic envelope.

But an opaque Duncan Hines or Betty Crocker cake mix package, with the illustration of the finished cake rich with icing, dominates the package so that within a few moments the design, the colors, the type styles and the shape of the box disappears. What the consumer sees is the luscious cake itself.

Sometimes the package refuses to disappear, and the fault can lie with the personality of the product itself. In the case of a nationally advertised food product, the package was striking, gay, bright, alive with color. But despite the achievement of the designers there was a contradiction between package and product personality.

The package radiated light-hearted gayety and frivolity, a mood that was in stark contrast to the function performed by the product. And so it failed to ring a bell in the mind of the housewife. Or still worse, it generated disbelief and even suspicion by its sharp contrast to the product's personality.

In the case of butter, which must suggest abundance, the matter of design and art for the package assumes paramount importance. As one supermarket shopper, in an Eastern city, remarked :

> I wish they'd show butter in boxes that are not just butter alone. Butter needs to go with something, like pancakes and butter, or baked potatoes and butter. It has to give me the feeling that I'm almost seeing the color of the butter. You know, butter by itself isn't very appetizing, even if it's the most beautiful color. It's when you take butter and combine it with something else that butter has such attraction. Then you can see that wonderful yellow—the richness. It almost makes my mouth water.

What the consumer is saying here is that simply illustrating butter in pats or in quarter-pound sticks, does not provide an appetizing appeal. Butter is a combination product and goes well when it is putting the spice on another food. Thus, she is calling for a pictorial presentation of the uses of butter.

Rehearsal of Purchase and Use

When a man watches a demonstration of a new car on TV, he imitates the salesman in his own mind. He peeks at the motor under the hood, tries out the automatic shift, raises and lowers the lid of the luggage compartment.

This is a mental rehearsal of the use of the new car. In the same way, mentally, the interested TV viewer rehearses the actual purchase : the bargaining, the signing of the contract, the questions he will ask the dealer, etc. Of course reactions depend greatly on the depth of penetration of the advertising message.

Rehearsal of purchase and use is a psychological factor in the relationship of a consumer to a package, too. The disappearing package brings the product and consumer into a close relationship with no significant barriers to hinder the interaction of the two.

> That cake mix looks so good, my mouth watered. I felt like eating the whole thing all up, right there, package and all.

This consumer response, is a tribute to the designer's art. But at the same time it emphasizes the paradox of good packaging. Here the package brings the consumer and product together, then steps out of the picture. It disappears without being missed.

More Traits of a Good Package

Perpetual Youth. Like people, packages grow old and tired. But unlike people, they can be renewed. A tired package communicates the personality of a tired product. Today's consumer demands that his favorite products be full of freshness and youth ; this calls for a constant renewal of design. Manufacturers of such products as cigarettes and breakfast foods are continually bringing out new package designs to replace those that are old and listless.

Ever-renewing Involvement of Consumer with Product. A sale does not end with the purchase of a product. Advertising and promotion continually strive to renew the relationship between consumer and product so as to create an uninterrupted flow of sales. The package on the shelf must perform a similar function—becoming more than a mere receptacle. It must resell itself to the consumer every time he sees it.

The Pleasure of Handling. In some products a good package induces

exploration with the hands, for example the Marlboro flip-top package.

Creative Considerateness. When a car manufacturer designs his windshield to give a better view from the driver's seat, he is exhibiting a concern for the consumer's needs which psychologists call creative considerateness. Consumers expect this attitude to apply to makers and designers of packages, too. Successful examples include the neat carry-home cartons of beer cans or soft drink bottles, and the development of new spouts on milk cartons which eliminate drips and spills. The presence of creative considerateness is an assurance that overall impact of a package will be greater.

In a packaging test using the techniques of ordinary opinion research, a large number of consumers were asked to indicate their preferences among three different package designs.

The result : 62 per cent chose the most ornate design, 25 per cent the less extravagant one, and 12 per cent the simplest design. The consumer had spoken and it seemed like a green light for ornate design.

But wait. In the real-life supermarket situation, away from the questioner who had asked them a direct question about their preferences, 72 per cent bought the package *with the simplest design.*

How "Yes" Turns into "No"

The average consumer's answer to a direct question may be different from his real answer, as the above switch clearly shows. Does this mean that the consumer must remain unpredictable ? That package designers should only design boxes that give themselves satisfaction ? Does this indicate that testing must remain essentially a game of chance ?

Packaging testing is a gamble only if the wrong techniques are used. For example, in the test discussed above, the following fallacies characteristic of conventional approaches to packaging research are evident :

1. The consumers were forced to answer as "packaging experts" rather than as consumers. They were asked to make a value judgment of the package rather than a consumer's choice.

2. They were presented the package artificially, when in fact consumers can only respond in a psychologically valid way to the package in its competitive environment.

3. All the social pressures of an interview situation are magnified by the direct question. The consumer seeks the most socially acceptable answer—the answer he feels will satisfy the interviewer, enhance his own status, and be in accord with his own self-image.

The Motivational Answer

Only in a store or supermarket situation can a real test of buyer attitudes be made. Here the consumer is not expected to answer questions ; he merely shops in his usual way. By setting up an experimental supermarket, researchers can make valid studies of consumer habits.

In a motivational research laboratory supermarket the consumer is not aware of which package is being tested. He is simply invited by the interviewer to play the "shopping game" and to enter the model store as if he were on a normal shopping trip.

He makes his purchase from among various brands of the same food product, and he has the opportunity to select his favorite brand in the current or the proposed new package—both of which appear in equally favorable positions on the shelves. If he fails to pick either package of the brand being tested, he is invited to "go back and make another purchase" until he has finally chosen one of the packages being tested.

After he has selected one of the packages being tested, he is given an interview by a psychologist who asks him about both packages—the chosen one and the rejected one. There are six steps in these interviews:

Free Association. The consumer is asked to tell everything that comes to his mind as he looks at the packages. On liquid bleach, for example: "It reminds me of an ammonia bottle. I can smell the strong fumes just by looking at it." (Recommendation of the research team; change the shape of the bottle.)

Story. "Look at this package and make up a story about it," says the psychologist. Such a third-person story permits the consumer to express his true feelings without fear of offending anyone.

Color. To study colors, the psychologist asks: "How do the colors make you feel?"

Person. To study the package's personality, the consumer is asked: "When you look at this box, what kind of person are you reminded of?" In one study of deodorants, it was found that the package impressed buyers as feminine, yet the product itself was seen as masculine. This kind of contradiction often hurts sales.

Slogan. The entire range of associations with the slogan are probed, and its emotional impact is estimated.

Choice Imputations. The consumer is asked to tell how he thinks other consumers will react to the product. Women, for example, are asked which box they think would most likely be chosen by a boy, man, or girl.

Validation of Laboratory Tests

Finally, packages are tested in actual supermarkets. A special check-out counter is set up by trained interviewers and a board is marked to indicate the reasons for specific purchases. The consumer arranges his purchases on the board according to categories: "reminded by brand," "planned by kind," "substitute," etc.

Depth interviews (that is, extensive and probing interviews) are then conducted in the store by the interviewers.

More valuable information can be obtained from a panel of consumers. Families representing different age, income, education, national and reli-

gious groups are asked to cooperate when a problem requires responses from specific individuals among the consuming population.

On the preceding pages we have examined many of the practical and psychological aspects of the package designer's art. These findings help to tell what makes a package come alive upon contact with the consumer. They form a blueprint for future design and testing.

But this blueprint must be implemented by the skilled designers and craftsmen of the packaging industry. They alone are capable of translating the needs and feelings of the consumer into patterns and planes, colors and type faces that satisfy these needs and feelings.

If designers will continue to add to the three dimensions of their art the vital fourth dimension of consumer motivational psychology, the future of American packaging will seem promising indeed.

27/ *Pricing Policies for New Products*

JOEL DEAN

Setting the optimum price for a new product is a critical and difficult management decision. In this article the author not only considers in some detail what steps to take in arriving at a "pioneer" price, but also discusses how knowledge of the product life cycle can be used in setting prices as the product moves through this cycle.

How to price a new product is a top-management puzzle that is too often solved by cost-theology and hunch. This article suggests a pricing policy geared to the dynamic nature of a new product's competitive status. Today's high rate of innovation makes the economic evolution of a new product a strategic guide to practical pricing.

MARKET BEHAVIOR

New products have a protected distinctiveness which is doomed to progressive degeneration from competitive inroads. The invention of a new marketable specialty is usually followed by a period of patent protection when markets are still hesitant and unexplored and when product design is fluid. Then comes a period of rapid expansion of sales as market acceptance is gained. Next the product becomes a target for competitive encroachment. New competitors enter the field, and innovations narrow the gap of distinctiveness between the product and its substitutes. The seller's zone of pricing discretion narrows as his distinctive "specialty" fades into a pedestrian "commodity" which is so little differentiated from other products that the seller has limited independence in pricing, even if rivals are few.

Throughout the cycle, continual changes occur in promotional and price elasticity and in costs of production and distribution. These changes call for adjustments in price policy.

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Elements of Cycle. Appropriate pricing over the cycle depends on the development of three different aspects of maturity, which usually move in approximately parallel time paths: (1) technical maturity, indicated by declining rate of product development, increasing standardization among brands, and increasing stability of manufacturing processes and knowledge about them; (2) market maturity, indicated by consumer acceptance of the basic service idea, by widespread belief that the products of most manufacturers will perform satisfactorily, and by enough familiarity and sophistication to permit consumers to compare brands competently; and (3) competitive maturity, indicated by increasing stability of market shares and price structures.

Of course, interaction among these components tends to make them move together. That is, intrusion by new competitors helps to develop the market, but entrance is most tempting when the new product appears to be establishing market acceptance.

Speed of Degeneration. The rate at which the cycle of degeneration progresses varies widely among products. What are the factors that set its pace? An overriding determinant is technical—the extent to which the economic environment must be reorganized to use the innovation effectively. The scale of plant investment and technical research called forth by the telephone, electric power, the automobile, or air transport makes for a long gestation period, as compared with even such major innovations as cellophane or frozen foods. Development comes fastest when the new gadget fills a new vacuum made to order for it. Electric stoves, as one example, have risen to 50% market saturation in the fast-growing Pacific North-west, where electric power has become the lowest cost energy. Products still in early developmental stages also provide rich opportunities for product differentiation, which with heavy research costs hold off competitive degeneration.

But aside from technical factors, the rate of degeneration is controlled by economic forces that can be subsumed under (1) rate of market acceptance and (2) ease of competitive entry.

By *market acceptance* is meant the extent to which buyers consider the product a serious alternative to other ways of performing the same service. Market acceptance is a frictional factor. The effect of cultural lags may endure for some time after quality and costs make products technically useful. The slow catch-on of the "electric pig" (garbage-disposal unit) is an example. On the other hand, the attitude of acceptance may exist long before any workable model can be developed; then the final appearance of the product will produce an explosive growth curve in sales. The antihistamine cold tablet, a spectacular example, reflects the national faith in chemistry's ability to vanquish the common cold. And, of course, low unit price may speed market acceptance of an innovation; ball-point pens and all-steel houses started at about the same time, but look at the difference

in their sales curves.

Ease of competitive entry is a major determinant of the speed of degeneration of a specialty. An illustration is found in the washing machine business before the war, where with little basic patent protection the Maytag position was quickly eroded by small manufacturers who performed essentially an assembly operation. The ball-point pen cascaded from a $12 novelty to a 49-cent "price football," partly because entry barriers of patents and techniques were ineffective. Frozen orange juice, which started as a protected specialty of Minute Maid, is speeding through its competitive cycle, with competing brands now crowding into the market.

At the outset the innovator can control the rate of competitive deterioration to an important degree by nonprice as well as by price strategies. Through successful research in product improvement he can protect his specialty position both by extending the life of his basic patent and by keeping ahead of competitors in product development. The record of the International Business Machines punch-card equipment illustrates this potentiality. Ease of entry is also affected by a policy of stay-out pricing (so low as to make the prospects look uninviting), which under some circumstances may slow down the process of competitive encroachment.

STEPS IN PIONEER PRICING

Pricing problems start when a company finds a product that is a radical departure from existing ways of performing a service and that is temporarily protected from competition by patents, secrets of production, control at the point of a scarce resource, or by other barriers. The seller here has a wide range of pricing discretion resulting from extreme product differentiation.

A good example of pricing latitude conferred by protected superiority of product is provided by the McGraw Electric Company's "Toastmaster," which, both initially and over a period of years, was able to command a very substantial price premium over competitive toasters. Apparently this advantage resulted from (1) a good product that was distinctive and superior, and (2) substantial and skillful sales promotion. Similarly, Sunbeam priced its electric iron $2 above comparable models of major firms with considerable success. And Sunbeam courageously priced its new metal coffee-maker at $32, much above competitive makes of glass coffee-makers, but it was highly successful.

To get a picture of how a manufacturer should go about setting his price in the pioneer stage, let me describe the main steps of the process (of course the classification is arbitrary and the steps are interrelated): (1) estimate of demand, (2) decision on market targets, (3) design of promotional strategy, and (4) choice of channels of distribution.

Estimate of Demand. The problem at the pioneer stage differs from that in a relatively stable monopoly because the product is beyond the experience

of buyers and because the perishability of its distinctiveness must be reckoned with. How can demand for new products be explored? How can we find out how much people will pay for a product that has never before been seen or used? There are several levels of refinement to this analysis.

The initial problem of estimating demand for a new product can be broken into a series of subproblems: (a) whether the product will go at all (assuming price is in a competitive range); (b) what range of price will make the product economically attractive to buyers; (c) what sales volumes can be expected at various points in this price range; and (d) what reaction will price produce in manufacturers and sellers of displaced substitutes.

The first step is an exploration of the *preferences and educability of consumers,* always of course in the light of the technical feasibility of the new product. How many potential buyers are there? Is the product a practical device for meeting their needs? How can it be improved to meet their needs better? What proportion of the potential buyers would prefer, or could be induced to prefer, this product to already existing products (prices being equal)?

Sometimes it is feasible to start with the assumption that all vulnerable substitutes will be fully displaced. For example, to get some idea of the maximum limits of demand for a new type of reflecting-sign material, a company started with estimates of the aggregate number and area of auto licence plates, highway markers, railroad operational signs, and name signs for streets and homes. Next, the proportion of each category needing night-light reflection was guessed. For example, it was assumed that only rural and suburban homes could benefit by this kind of name sign, and the estimate of need in this category was made accordingly.

It is not uncommon and possibly not unrealistic for a manufacturer to make the blithe assumption at this stage that the product price will be "within a competitive range" without having much idea of what that range is. For example, in developing a new type of camera equipment, one of the electrical companies judged its acceptability to professional photographers by technical performance without making any inquiry into its economic value. When the equipment was later placed in an economic setting, the indications were that sales would be negligible.

The second step is marking out this *competitive range of price.* Vicarious pricing experience can be secured by interviewing selected distributors who have enough comparative knowledge of customers' alternatives and preferences to judge what price range would make the new product "a good value." Direct discussions with representative experienced industrial users have produced reliable estimates of the "practical" range of prices. Manufacturers of electrical equipment often explore the economic as well as the technical feasibility of a new product by sending engineers with blueprints and models to see customers, such as technical and operating executives.

In guessing the price range of a radically new consumers' product of small unit value, the concept of barter equivalent can be a useful research guide. For example, a manufacturer of paper specialties tested a dramatic new product in the following fashion : A wide variety of consumer products totally unlike the new product were purchased and spread out on a big table. Consumers selected the products they would swap for the new product. By finding out whether the product would trade even for a dish pan, a towel, or a hairpin, the executives got a rough idea of what range of prices might strike the typical consumer as reasonable in the light of the values she could get for her money in totally different kinds of expenditures.

But asking prospective consumers how much they think they would be willing to pay for a new product, even by such indirect or disguised methods, may often fail to give a reliable indication of the demand schedule. Most times people just do not know what they would pay. It depends partly on their income and on future alternatives. Early in the post-war period a manufacturer of television sets tried this method and got highly erratic and obviously unreliable results because the distortion of war shortages kept prospects from fully visualizing the multiple alternative ways of spending their money. Another deficiency, which may, however, be less serious than it appears, is that responses are biased by the consumer's confused notion that he is bargaining for a good price. Not until techniques of depth interviewing are more refined than they are now can this crude and direct method of exploring a new product's demand schedule hold much promise of being accurate.

One appliance manufacturer tried out new products on a sample of employees by selling to them at deep discounts, with the stipulation that they could if they wished return the products at the end of the experiment period and get a refund of their low purchase price. Demand for frozen orange juice was tested by placing it in several markets at three different prices, ranging around the price of fresh fruit ; the result showed rather low price elasticity.

While inquiries of this sort are often much too short-run to give any real indication of consumer tastes, the relevant point here is that even such rough probing often yields broad impressions of price elasticity, particularly in relation to product variations such as styling, placing of controls, and use of automatic features. It may show, for example, that $5 of cost put into streamlining or chromium stripping can add $50 to the price.

The third step, a more definite inquiry into the *probable sales from several possible prices,* starts with an investigation of the prices of substitutes. Usually the buyer has a choice of existing ways of having the same service performed ; an analysis of the costs of these alternatives serves as a guide in setting the price for a new way.

Comparisons are easy and significant for industrial customers who have a costing system to tell them the exact value, say, of a fork-lift truck in terms

of warehouse labor saved. Indeed, chemical companies setting up a research project to displace an existing material often know from the start the top price that can be charged for the new substitute in terms of cost of the present material.

But in most cases the comparison is obfuscated by the presence of quality differences that may be important bases for price premiums. This is most true of household appliances, where the alternative is an unknown amount of labor of a mysterious value. In pricing a cargo parachute the alternatives are: (1) free fall in a padded box from a plane flown close to the ground, (2) landing the plane, (3) back shipment by land from the next air terminal, or (4) land shipment all the way. These alternatives differ widely in their service value and are not very useful pricing guides.

Thus, it is particularly hard to know how much good will be done by making the new product cheaper than the old by various amounts, or how much the market will be restricted by making the new product more expensive. The answers usually come from experiment or research.

The fourth step in estimating demand is to consider the *possibility of retaliation by manufacturers of displaced substitutes* in the form of price cutting. This development may not occur at all if the new product displaces only a small market segment. If old industries do fight it out, however, their incremental costs provide a floor to the resulting price competition and should be brought into price plans. For example, a manufacturer of black-and-white sensitized paper studied the possibility that lowering his price would displace blueprint paper substantially. Not only did he investigate the prices of blueprint paper, but he also felt it necessary to estimate the out-of-pocket cost of making blueprint paper because of the probability that manufacturers already in the market would fight back by reducing prices toward the level of their incremental costs.

Decision on Market Targets. When the company has developed some idea of the range of demand and the range of prices that are feasible for the new product, it is in a position to make some basic strategic decisions on market targets and promotional plans. To decide on market objectives requires answers to several questions: What ultimate market share is wanted for the new product? How does it fit into the present product line? What about production methods? What are the possible distribution channels? These are questions of joint costs in production and distribution, of plant expansion outlays, and of potential competition. If entry is easy, the company may not be eager to disrupt its present production and selling operations to capture and hold a large slice of the new market. But if the prospective profits shape up to a substantial new income source, it will be worthwhile to make the capital expenditures on plant needed to reap the full harvest.

A basic factor in answering all these questions is the expected behavior of production and distribution costs. The relevant data here are all the pro-

duction outlays that will be made after the decision day—the capital expenditures as well as the variable costs. A go-ahead decision will hardly be made without some assurance that these costs can be recovered before the product becomes a football in the market. Many different projections of costs will be made, depending on the alternative scales of output, rate of market expansion, threats of potential competition, and measures to meet that competition that are under consideration. But these factors and the decision that is made on promotional strategy are interdependent. The fact is that this is a circular problem that in theory can only be solved by simultaneous equations.

Fortunately, it is possible to make some approximations that can break the circle : Scale economies become significantly different only with broad changes in the size of plant and the type of production methods. This narrows the range of cost projections to workable proportions. The effects of using different distribution channels can be guessed fairly well without meshing the alternatives in with all the production and selling possibilities. The most vulnerable point of the circle is probably the decision on promotional strategy. The alternatives here are broad and produce a variety of results. The next step in the pricing process is, therefore, a plan for promotion.

Design of Promotional Strategy. Initial promotion outlays are an investment in the product that cannot be recovered until some kind of market has been established. The innovator shoulders the burden of creating a market—educating consumers to the existence and uses of the product. Later imitators will never have to do this job; so, if the innovator does not want to be simply a benefactor to his future competitors, he must make pricing plans to recover his initial outlays before his pricing discretion evaporates.

His basic strategic problem is to find the right mixture of price and promotion to maximize his long-run profits. He can choose a relatively high price in pioneering stages, together with extravagant advertising and dealer discounts, and plan to get his promotion costs back early; or he can use low prices and lean margins from the very outset in order to discourage potential competition when the barriers of patents, distribution channels or production techniques become inadequate. This question is discussed further below.

Choice of Channels of Distribution. Estimation of the costs of moving the new product through the channels of distribution to the final consumer must enter into the pricing procedure, since these costs govern the factory price that will result in a specified consumer price, and since it is the consumer price that matters for volume. Distributive margins are partly pure promotional costs and partly physical distribution costs. Margins must at least cover the distributors' costs of warehousing, handling and order taking. These costs are similar to factory production costs in being related to physical capacity and its utilization, i.e., fluctuations in production or sales volume. Hence these set a floor to trade-channel discounts. But distributors usually also contribute promotional effort—in point-of-sale pushing, local

advertising and display—when it is made worth their while.

These pure promotional costs are more optional. Unlike physical handling costs they have no necessary functional relation to sales volume. An added layer of margin in trade discounts to produce this localized sales effort (with retail price fixed) is an optional way for the manufacturer to spend his prospecting money in putting over a new product.

In establishing promotional costs, the manufacturer must decide on the extent to which the selling effort will be delegated to members of the distribution chain. Indeed, some distribution channels, such as house-to-house selling and retail store selling supplemented by home demonstrators, represent a substantial delegation of the manufacturer's promotional job, and these usually involve much higher distribution-channel costs than do conventional methods. Rich distributor margins are an appropriate use of promotion funds only when the producer thinks a high price plus promotion is a better expansion policy on the specialty than low price by itself. Thus there is an intimate interaction between the pricing of a new product and the costs and the problems of floating it down the distribution channels to the final consumer.

POLICIES FOR PIONEER PRICING

The strategic decision in pricing a new product is the choice between (1) a policy of high initial prices that skim the cream of demand and (2) a policy of low prices from the outset serving as an active agent for market penetration. Although the actual range of choice is much wider than this, a sharp dichotomy clarifies the issues for consideration.

Skimming Price. For products that represent a drastic departure from accepted ways of performing a service, a policy of relatively high prices coupled with heavy promotional expenditures in the early stages of market development (and lower prices at later stages) has proved successful for many products. There are several reasons for the success of this policy:

(1) Demand is likely to be more inelastic with respect to price in the early stages than it is when the product is full grown. This is particularly true for consumers' goods. A novel product, such as the electric blanket or the electric pig, is not yet accepted as a part of the expenditure pattern. Consumers are still ignorant about its value as compared with the value of conventional alternatives. Moreover, at least in the early stages, the product has so few close rivals that cross-elasticity of demand is low. Promotional elasticity is, on the other hand, quite high, particularly for products with high unit prices such as television sets. Since it is difficult for the customer to value the service of the product in a way to price it intelligently, he is by default principally interested in how well it will work.

(2) Launching a new product with a high price is an efficient device for breaking the market up into segments that differ in price elasticity of

demand. The initial high price serves to skim the cream of the market that is relatively insensitive to price. Subsequent price reductions tap successively more elastic sectors of the market. This pricing strategy is exemplified by the systematic succession of editions of a book, sometimes starting with a $50 limited personal edition and ending up with a 25-cent pocket book.

(3) This policy is safer, or at least appears so. Facing an unknown elasticity of demand, a high initial price serves as a "refusal" price during the stage of exploration. How much costs can be reduced as the market expands and as the design of the product is improved by increasing production efficiency with new techniques is difficult to predict. One of the electrical companies recently introduced a new lamp bulb at a comparatively high initial price, but with the announcement that the price would be reduced as the company found ways of cutting its costs.

(4) Many companies are not in a position to finance the product flotation out of distant future revenues. High cash outlays in the early stages result from heavy costs of production and distributor organizing, in addition to the promotional investment in the pioneer product. High prices are a reasonable financing technique for shouldering these burdens in the light of the many uncertainties about the future.

Penetration Price. The alternative policy is to use low prices as the principal instrument for penetrating mass markets early. This policy is the reverse of the skimming policy in which the price is lowered only as short-run competition forces it. The passive skimming policy has the virtue of safeguarding some profits at every stage of market penetration. But it prevents quick sales to the many buyers who are at the lower end of the income scale or the lower end of the preference scale and who, therefore, are unwilling to pay any substantial premium for product or reputation superiority. The active approach in probing possibilities for market expansion by early penetration pricing requires research, forecasting and courage.

A decision to price for market expansion can be reached at various stages in a product's life cycle: before birth, at birth, in childhood, in adulthood, or in senescence. The chances for large-volume sales should at least be explored in the early stages of product development research, even before the pilot stage, perhaps with a more definitive exploration when the product goes into production and the price and distribution plans are decided upon. And the question of pricing to expand the market, if not answered earlier, will probably arise once more after the product has established an elite market.

Quite a few products have been rescued from premature senescence by pricing them low enough to tap new markets. The reissues of important books in the 25-cent pocket-book category illustrate this point particularly well. These have produced not only commercial but intellectual renascence as well to many authors. The pattern of sales growth of a product that had reached stability in a high-price market has been known to undergo sharp

changes when it was suddenly priced low enough to tap new markets. A contrasting illustration of passive policy is the recent pricing experience of the airlines. Although safety considerations and differences in equipment and service cloud the picture, it is pretty clear that the bargain-rate coach fares of scheduled airlines were adopted in reaction to the cut rates of non-scheduled airlines. This competitive response has apparently established a new pattern of traffic growth for the scheduled airlines.

An example of penetration pricing at the initial stage of the product's market life, again from the book field, is Simon & Schuster's recently adopted policy of bringing out new titles in a $1, paper-bound edition simultaneously with the conventional higher priced, cloth-bound edition.

What conditions warrant aggressive pricing for market penetration? This question cannot be answered categorically, but it may be helpful to generalize that the following conditions indicate the desirability of an early low-price policy: (1) a high price-elasticity of demand in the short-run, i.e., a high degree of responsiveness of sales to reductions in price; (2) substantial savings in production costs as the result of greater volume—not a necessary condition, however, since if elasticity of demand is high enough, pricing for market expansion may be profitable without realizing production economies; (3) product characteristics such that it will not seem bizarre when it is first fitted into the consumers' expenditure pattern; (4) a strong threat of potential competition.

This threat of potential competition is a highly persuasive reason for penetration pricing. One of the major objectives of most low-pricing policies in the pioneering stages of market development is to raise entry barriers to prospective competitors. This is appropriate when entrants must make large-scale investments to reach minimum costs and they cannot slip into an established market by selling at substantial discounts.

In many industries, however, the important potential competitor is a large, multiple-product firm operating as well in other fields than that represented by the product in question. For such a firm, the most important consideration for entry is not existing margins but the prospect of large and growing volume of sales. Present margins over costs are not the dominant consideration because such firms are normally confident that they can get their costs down as low as competitors' costs if the volume of production is large. Therefore, when total industry sales are not expected to amount to much, a high-margin policy can be followed because entry is improbable in view of the expectation of low volume and because it does not matter too much to potential competitors if the new product is introduced.

The fact remains that for products whose market potential appears big, a policy of stay-out pricing from the outset makes much more sense. When a leading soap manufacturer developed an additive that whitened clothes and enhanced the brilliance of colors, the company chose to take its gains in a larger share of the market rather than in a temporary price premium. Such

a decision was sound, since the company's competitors could be expected to match or better the product improvement fairly promptly. Under these circumstances, the price premium would have been short-lived, whereas the gains in market share were more likely to be retained.

Of course, any decision to start out with lower prices must take into account the fact that if the new product calls for capital recovery over a long period, the risk may be great that later entrants will be able to exploit new production techniques which can undercut the pioneer's original cost structure. In such cases, the low-price pattern should be adopted with a view to long-run rather than to short-run profits, with the recognition that it usually takes time to attain the volume potentialities of the market.

It is sound to calculate profits in dollar terms rather than in percentage margins and to think in terms of percentage return on the investment required to produce and sell the expanded volume rather than in terms of percentage mark-up. Profit calculations should also recognize the contributions that market-development pricing can make to the sale of other products and to the long-run future of the company. Often a decision to use development pricing will turn on these considerations of long-term impacts upon the firm's total operation strategy rather than on the profits directly attributable to the individual product.

An example of market-expansion pricing is found in the experience of a producer of asbestos shingles, which have a limited sale in the high-price house market. The company wanted to broaden the market in order to compete effectively with other roofing products for the inexpensive home. It tried to find the price of asphalt shingles that would make the annual cost per unit of roof over a period of years as low as the cheaper roofing that currently commanded the mass market. Indications were that the price would have to be at least this low before volume sales would come. Next, the company explored the relationship between production costs and volume, far beyond the range of its own volume experience. Variable costs and overhead costs were estimated separately, and the possibilities of a different organization of production were explored. Calculating in terms of anticipated dollars of profit rather than in terms of percentage margin, the company reduced the price of asbestos shingles and brought the annual cost down close to the cost of the cheapest asphalt roof. This reduction produced a greatly expanded volume and secured a substantial share of the mass market.

PRICING IN MATURITY

To determine what pricing policies are appropriate for later stages in the cycle of market and competitive maturity, the manufacturer must be able to tell when a product is approaching maturity. Some of the symptoms of degeneration of competitive status toward the commodity level are :

(1) *Weakening in brand preference*—this may be evidenced by a higher cross-elasticity of demand among leading products, the leading brand not being able to continue demanding as much price premium as initially without losing position;

(2) *Narrowing physical variation among products as the best designs are developed and standardized*—this has been dramatically demonstrated in automobiles and is still in process in television receivers;

(3) *The entry in force of private-label competitors*—this is exemplified by the mail-order houses' sale of own-label refrigerators and paint sprayers;

(4) *Market saturation*—the ratio of replacement sales to new equipment sales serves as an indicator of the competitive degeneration of durable goods, but in general it must be kept in mind that both market size and degree of saturation are hard to define (e.g., saturation of the radio market, which was initially thought to be one radio per home and later had to be expanded to one radio per room);

(5) *The stabilization of production methods*—a dramatic innovation that slashes costs (e.g., prefabricated houses) may disrupt what appears to be a well-stabilized oligopoly market.

The first step for the manufacturer whose specialty is about to slip into the commodity category is to reduce real prices promptly as soon as symptoms of deterioration appear. This step is essential if he is to forestall the entry of private-label competitors. Examples of failure to make such a reduction are abundant. By and large, private-label competition has speeded up the inevitable evolution of high specialties into commodities and has tended to force margins down by making price reductions more open and more universal than they would otherwise be. From one standpoint, the rapid growth of the private-label share in the market is a symptom of unwise pricing on the part of the national-brand sector of the industry.

This does not mean that the manufacturer should declare open price war in the industry. When he moves into mature competitive stages, he enters oligopoly relationships where price slashing is peculiarly dangerous and unpopular. But, with active competition in prices precluded, competitive efforts may move in other directions, particularly toward product improvement and market segmentation. Product improvement at this stage, where most of the important developments have been put into all brands, practically amounts to market segmentation. For it means adding refinements and quality extras that put the brand in the elite category, with an appeal only to the top-income brackets. This is a common tactic in food marketing, and in the tire industry it was the response of the General Tire Company to the competitive conditions of the 1930's.

As the product matures and as its distinctiveness narrows, a choice must sometimes be made by the company concerning the rung of the competitive price ladder it should occupy—roughly, the choice between a low and a not-so-low relative price.

A price at the low end of the array of the industry's real prices is usually associated with a product mixture showing a lean element of services and reputation (the product being physically similar to competitive brands, however) and a company having a lower gross margin than the other industry members (although not necessarily a lower net margin). The choice of such a low-price policy may be dictated by technical or market inferiorities of the product, or it may be adopted because the company has faith in the long-run price elasticity of demand and the ability of low prices to penetrate an important segment of the market not tapped by higher prices. The classic example is Henry Ford's pricing decision in the 1920's.

SUMMARY

In pricing products of perishable distinctiveness, a company must study the cycle of competitive degeneration in order to determine its major causes, its probable speed, and the chances of slowing it down. Pricing in the pioneering stage of the cycle involves difficult problems of projecting potential demand and of guessing the relation of price to sales. The first step in this process is to explore consumer preferences and to establish the feasibility of the product in order to get a rough idea of whether demand will warrant further exploration. The second step is to mark out a range of prices that will make the product economically attractive to buyers. The third step is to estimate the probable sales that will result from alternative prices.

If these initial explorations are encouraging, the next move is to make decisions on promotional strategy and distribution channels. The policy of relatively high prices in the pioneering stage has much to commend it, particularly when sales seem to be comparatively unresponsive to price but quite responsive to educational promotion. On the other hand, the policy of relatively low prices in the pioneering stage, in anticipation of the cost savings resulting from an expanding market, has been strikingly successful under the right conditions. Low prices look to long-run rather than short-run profits and discourage potential competitors.

Pricing in the mature stages of a product's life cycle requires a technique for recognizing when a product is approaching maturity. Pricing problems in this stage border closely on those of oligopoly.

28/ *Bayesian Decision Theory in Pricing Strategy*

PAUL E. GREEN

The Bayesian approach to decision-making under uncertainty provides management with an explicit framework for choosing the best course of action. To date, however, there has been little evidence of how this approach worked out when applied to a real world problem. This article shows the value of using Bayesian statistics in the selection of a "best" pricing policy for a firm in an oligopolistic industry.

Since the publication of Robert Schlaifer's pioneering work, *Probability and Statistics for Business Decisions,*[1] the Bayesian approach to decision-making under uncertainty has received much comment, pro and con, by theoretical and applied statisticians alike.

However, in contrast to the large number of theoretical contributions being made to decision theory in general and Bayesian statistics in particular, reported applications of these procedures to real-world problem situations have been rather meagre. Applications appear especially lacking in the marketing field.

In highly oversimplified terms, the Bayesian approach to decision-making under uncertainty provides a framework for explicitly working with the economic costs of alternative courses of action, the prior knowledge or judgments of the decision maker, and formal modification of these judgments as additional data are introduced into the problem.

In the Du Pont Company, the decision theory approach, often augmented by computer simulation, has been used experimentally over the past few years in a variety of market planning applications, ranging from capacity expansion problems to questions concerning the introduction of new products and long-range price and promotional strategy. The application to follow con-

[1] Robert Schlaifer, *Probability and Statistics for Business Decisions* (New York: Mc-Graw-Hill Book Co., Inc., 1959). In addition, two excellent general articles dealing with the Bayesian approach are: Harry V. Roberts, "The New Business Statistics," *Journal of Business,* Vol. 33 (January, 1960), pp. 21-30, and Jack Hirshleifer, "The Bayesian Approach to Statistical Decision—An Exposition," *Journal of Business,* vol.34 (October, 1961), pp. 471-489.

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cerns the use of Bayesian theory in the selection of a "best" pricing policy for a firm in an oligopolistic industry where such factors as demand elasticity, competitive retaliation, threat of future price weakness, and potential entry of new competitors influence the effectiveness of the firm's courses of action. Although the content of this case is apocryphal, its structure has been compounded from actual situations.

No attempt will be made to describe even superficially all of the many facets of the Bayesian approach to decision-making under uncertainty. The content of this article is focused on only two main considerations.

First, in dealing with actual marketing situations, for example, pricing problems, the opportunity to obtain field information may be non-existent. Second, in dealing with actual marketing problems, the complexity of the situation may force the analyst to develop a problem structure in much greater detail than has been described in the literature.

AN ILLUSTRATIVE APPLICATION

Since early 1955, the Everclear Plastics Company had been producing a resin called Kromel, basically designed for certain industrial markets. In addition to Everclear, three other firms were producing Kromel resin. Prices among all four suppliers (called here the Kromel industry) were identical; and product quality and service among producers were comparable. Everclear's current share of Kromel industry sales amounted to 40%.

Four industrial end uses comprised the principal marketing area for the Kromel industry. These market segments will be labelled A, B, C, and D. Three of the four segments (B, C, and D) were functionally dependent on segment A in the sense that Kromel's *ultimate* market position and rate of approach to this level in each of these three segments was predicated on the resin's making substantial inroads in segment A.

The Kromel industry's only competition in these four segments consisted of another resin called Verlon, which was produced by six other firms. Shares of the total Verlon-Kromel market (weighted sums over all four segments) currently stood at 70% Verlon industry, and 30% Kromel industry. Since its introduction in 1955, the superior functional characteristics per dollar cost of Kromel had enabled this newer product to displace fairly large poundages of Verlon in market segments B, C, and D.

On the other hand, the functional superiority per dollar cost of Kromel had not been sufficiently high to interest segment A consumers. While past price decreases in Kromel had been made, the cumulative effect of these reductions had still been insufficient to accomplish Kromel sales penetration in segment A. (Sales penetration is defined as a market share exceeding zero.)

In the early fall of 1960, it appeared to Everclear's management that future weakness in Kromel price might be in the offing. The anticipated capacity increases on the part of the firm's Kromel competitors suggested that in the

next year or two potential industry supply of this resin might significantly exceed demand, if no substantial market participation for the Kromel industry were established in segment A. In addition, it appeared likely that potential Kromel competitors might enter the business, thus adding to the threat of oversupply in later years.

Segment A, of course, constituted the key factor. If substantial inroads could be made in this segment, it appeared likely that Kromel industry sales growth in the other segments not only could be speeded up, but that ultimate market share levels for this resin could be markedly increased from those anticipated in the absence of segment A penetration. To Everclear's sales management, a price reduction in Kromel still appeared to represent a feasible means to achieve this objective, and (even assuming similar price reductions on the part of Kromel competitors) perhaps could still be profitable to Everclear.

However, a large degree of uncertainty surrounded both the overall attractiveness of this alternative, and under this alternative the amount of the price reduction which would enable Kromel to penetrate market segment A.

PROBLEM STRUCTURING AND DEVELOPMENT OF THE MODEL

Formulation of the problem required a certain amount of artistry and compromise toward achieving a reasonably adequate description of the problem. But it was also necessary to keep the structure simple enough so that the nature of each input would be comprehensible to the personnel responsible for supplying data for the study.

Problem components had to be formulated, such as: (a) length of planning period; (b) number and nature of courses of action; (c) payoff functions; and (d) states of nature covering future growth of the total Verlon-Kromel market, inter-industry (Kromel vs. Verlon) and intra-Kromel industry effects of a Kromel price change, implications on Everclear's share of the total Kromel industry, and Everclear's production costs.

Initial discussions with sales management indicated that a planning period of five years should be considered in the study. While the selection of five years was somewhat arbitrary, sales personnel believed that some repercussions of a current price reduction might well extend over several years into the future.

A search for possible courses of action indicated that four pricing alternatives covered the range of actions under consideration;

1. Maintenance of status quo on Kromel price, which was $1.00/lb.
2. A price reduction to $.93/lb. within the next three months.
3. A price reduction to $.85/lb. within the next three months.
4. A price reduction to $.80/lb. within the next three months.

Inasmuch as each price action would be expected to produce a different

time pattern in the flow of revenues and costs, and since no added investment in production facilities was contemplated, it was agreed that cumulative, compounded net profits over the 5-year planning period would constitute a relevant payoff function. In the absence of any unanimity as to the

Table 1 Subjective Probabilities and Data Estimates Associated with Everclear's Pricing Problem

1. If Kromel price remained at $1.00/pound and market segment A were not penetrated, what market share pattern for Kromel industry sales pounds would obtain in segments B, C, and D ?

Base Assumption—Kromel Industry Share

	Segment B	*Segment C*	*Segment D*
1961	57.0%	40.0%	42.0%
1962	65.0	50.0	44.0
1963	75.0	80.0	46.0
1964	76.0	84.0	48.0
1965	76.0	84.0	50.0

2. If Kromel price remained at $1.00/pound, what is the probability that Kromel would still penetrate market segment A ?

Probability of Penetration —Segment A	
1961	.05
1962	.10
1963	.20
1964	.25
1965	.40

3. Under price strategies $.93/pound, $.85/pound, and $.80/ pound, what is the probability of Verlon industry price retaliation ; and given the particular retaliation (shown below), what is the probability that Kromel would still penetrate market segment A ?

Pricing Case (entries are probabilities)

Verlon Industry Retaliation	*$.93 Case*	*$.85 Case*	*$.80 Case*
Full match of Kromel price reduction	.05	.15	.38
Half match of Kromel price reduction	.60	.75	.60
Stand pat on price	.35	.10	.02

Given a Particular Verlon Retaliatory Action, the Probability that Kromel Would Still Penetrate Segment A

	$.93 Case			*$.85Case*			*$.80 Case*		
	Full Match	*Half Match*	*Stand Pat*	*Full Match*	*Half Match*	*Stand Pat*	*Full Match*	*Half Match*	*Stand Pat*
1961	.15	.20	.35	.20	.40	.80	.75	.80	.90
1962	.25	.30	.60	.30	.60	.90	.80	.85	.95
1963	.35	.40	.65	.40	.65	.95	.85	.90	1.00
1964	.60	.65	.75	.70	.75	.98	.90	.95	1.00
1965	.65	.70	.80	.75	.80	.98	.95	.98	1.00

4. If penetration in market segment A were effected, what is the probability that Kromel would obtain the specific share of this segment (a) during the first year of penetration, and (b) during the second year of participation ?

Share	*First year*	*Second year*
25%	.15	.00
50	.35	.00
75	.40	.00
100	.10	1.00

5. If Kromel penetration of market segment A were effected, what impact would this event have on speeding up Kromel industry participation in segments B, C, and D ?

   Segment B—Would speed up market participation one year from base assumption shown under point 1 of this Table.

   Segment C—Would speed up market participation one year from base assumption shown under point 1 of this Table.

   Segment D—Kromel would move up to 85% of the market in the following year, and would obtain 100% of the market in the second year following penetration of segment A.

6. Under the price reduction strategies, if Kromel penetration of market segment A were *not* accomplished, what is the probability that Kromel industry participation in segments B, C, and D (considered as a group) would still be speeded up one year from the base assumption shown under point 1 of this Table ?

Probability of Speed up	
$.93 Case	.45
$.85 Case	.60
$.80 Case	.80

7. If Kromel price at the end of any given year were $1.00/pound, $.93/pound, $.85/pound, or $.80/pound respectively, *and* if market segment A were not penetrated, what is the probability that present competitive Kromel producers would take the specific price action shown below ?

If Kromel Price	*Action*	*Probability*
@ $1.00/pound	$1.00/pound	.15
	.93	.80
	.85	.05
	.80	.00
@ $.93/pound	.93	.80
	.85	.20
	.80	.00
@ $.85/pound	.85	1.00
	.80	.00
@ $.80/pound	.80	1.00

8. Under each of the four price strategies, what is the probability that competitive (present or potential) Kromel producers would add to or initiate capacity (as related to the price prevailing in mid-1961) in the years 1963 and 1964 ? (No capacity changes were assumed in 1965.)

Competitor	*$1.00/pound*	*$.93/pound*	*$.85/pound*	*$.80/pound*
R	.50	.20	.05	.00
S	.90	.75	.50	.20
T	.40	.10	.05	.00
U	.70	.50	.25	.00
V	.70	.50	.25	.00

Timing and Amount Available Beginning of Year

Competitor	*1963*	*1964*
R	10 million pounds	20 million pounds
S	12	20
T	12	20
U	6	12
V	6	6

"correct" opportunity cost of capital, it was decided to use two interest rates of 6% and 10% annually in order to test the sensitivity of outcomes to the cost of capital variable.

Another consideration came to light during initial problem discussions. Total market growth (for the Kromel or Verlon industry) over the next five years in each market segment constituted a "state of nature" which could impinge on the Everclear's profit position. Accordingly, it was agreed to consider three separate forecasts of total market growth, a "most probable, optimistic, and pessimistic" forecast.

From these assumptions a base case was then formulated. This main case would first consider the pricing problem under the most probable forecast of total Verlon-Kromel year-by-year sales potential in each segment, using an opportunity cost of capital of 6% annually. The two other total market forecasts and the other cost of capital were then to be treated as sub-cases, in order to test the sensitivity of the base case outcomes to variations in these particular states of nature.

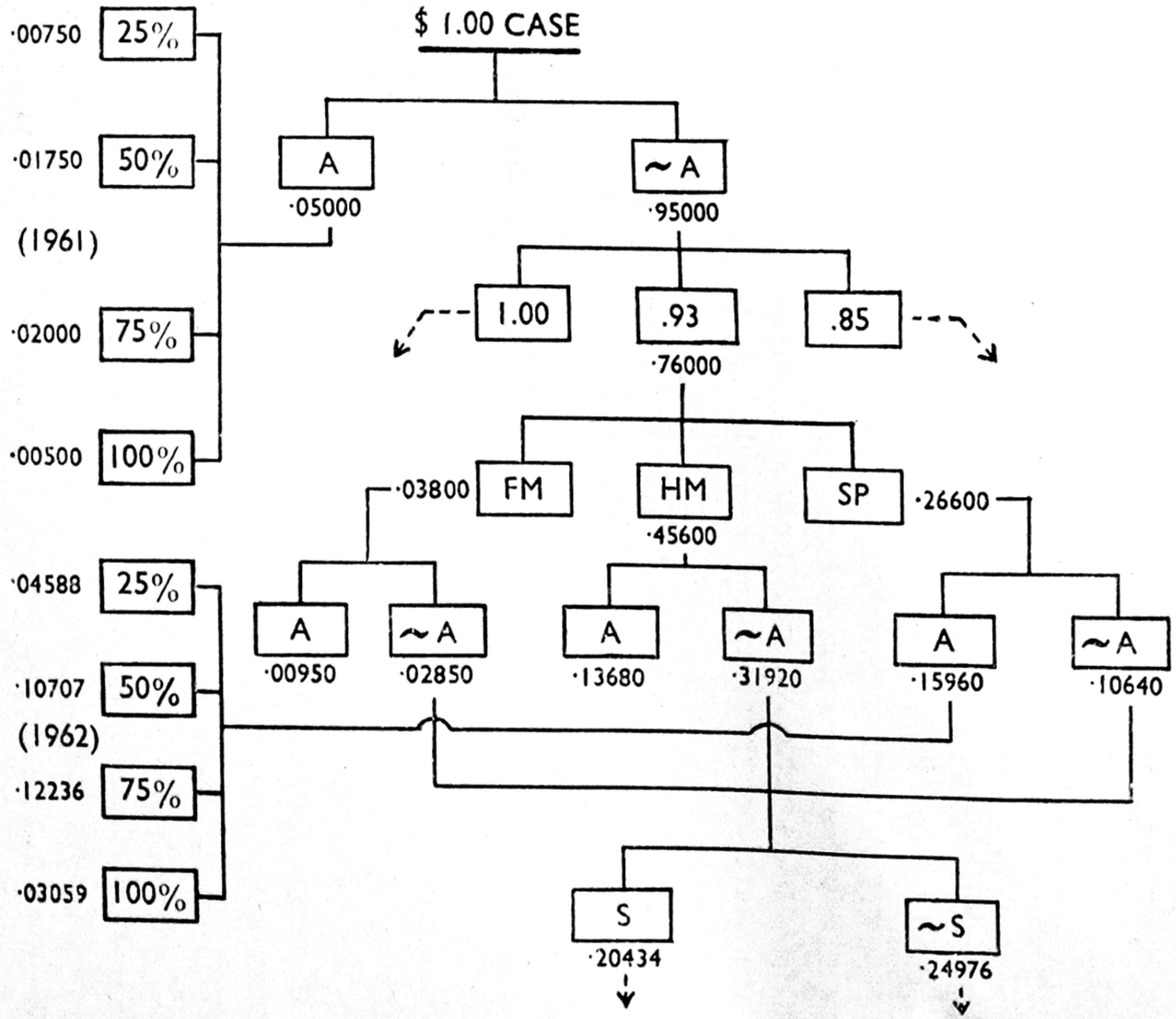
However, inter- and intra-industry alternative states of nature literally abounded in the Kromel resin problem. Sales management at Everclear had to consider such factors as:

1. The possibility that Kromel resin could effect penetration of market segment A if no price decrease were made.
2. If a price decrease were made, the extent of Verlon retaliation to be anticipated.
3. Given a particular type of Verlon price retaliation, its possible impact on Kromel's penetration of segment A.
4. If segment A were penetrated, the possible market share which the Kromel industry could gain in segment A.
5. If segment A were penetrated, the possible side effects of this event on speeding up Kromel's participation in market segments B, C, and D.
6. If segment A were not penetrated, the impact which the price reduction could still have on speeding up Kromel's participation in segments B, C, and D.
7. If segment A were not penetrated, the possibility that existing Kromel competitors would initiate price reductions a year hence.
8. The possible impact of a current Kromel price reduction on the decisions of existing or potential Kromel producers to increase capacity or enter the industry.

While courses of action, length of planning period, and the payoff measure (cumulative, compounded net profits) for the base case had been fairly quickly agreed upon, the large number of inter-and intra-Kromel industry states of nature deemed relevant to the problem would require rather lengthy discussion with Everclear's sales personnel.

Accordingly, introductory sessions were held with Everclear's sales management, in order to develop a set of states of nature large enough to represent an adequate description of the real problem, yet small enough to be comprehended by the participating sales personnel. Next, separate interview sessions were held with two groups of Everclear's sales personnel; subjective

Figure 1 Portion of a "Tree Diagram"; Kromel Price Simulation



LEGEND

A — KROMEL PENETRATES MARKET SEGMENT A

~A — KROMEL DOES NOT PENETRATE MARKET SEGMENT A

25%, 50%, 75%, 100% — KROMEL PARTICIPATION IN MARKET SEGMENT A

1.00, .93, .85 — KROMEL PRICE IN DOLLARS PER POUND

FM — FULL MATCH ON PRICE REDUCTION BY VERLON COMPETITORS

HM — HALF MATCH ON PRICE REDUCTION BY VERLON COMPETITORS

SP — VERLON COMPETITORS STAND PAT ON PRICE

S — KROMEL'S PARTICIPATION IN MARKET SEGMENTS B, C, AND D IS SPEEDED UP

~S — KROMEL'S PARTICIPATION IN MARKET SEGMENTS B, C, AND D IS NOT SPEEDED UP

probabilities regarding the occurrence of alternative states of nature under each course of action were developed in these sessions. A final session was held with all contributing personnel in attendance; each projection and/or subjective probability was gone over in detail, and a final set of ground rules for the study was agreed upon. A description of these ground rules appears in Table 1.

USE OF TREE DIAGRAMS

The large number of alternative states of nature which were associated with inter-and intra-industry factors necessitated the construction of "tree diagrams" for each pricing alternative. These diagrams enabled sales management to trace the implications of their assumptions. Figure I shows a portion of one such tree diagram.

A word of explanation concerning interpretation of the probability tree is in order. The two principal branches underneath the *$1.00 case* refer to the event of whether or not Kromel penetrates segment A in the first year of the planning period. Sales personnel felt that a 5% chance existed for penetration, hence the figure .05000 under A.

However, if A were penetrated, four market participations were deemed possible : 25, 50, 75 and 100% carrying the conditional probabilities of .15, .35 .40 and .10 respectively.

Multiplication of each conditional probability, in turn, by the .05 marginal probability leads to the four joint probabilities noted in the upper left portion of the chart.

Next, if Kromel did not penetrate segment A during the first year, a probability of .80 was attached to the event that competitive Kromel producers would reduce price to $.93/lb. Multiplying the conditional probability of .80 by .95 results in the .76000 probability assigned to the joint event, "did not penetrate segment A and Kromel price was reduced to $.93/lb."

However, if Kromel price were reduced to $.93/lb., Verlon retaliation had to be considered, leading to the joint probabilities assigned to the next set of tree branches. In this way probabilities were built up for each of the over-400 possible outcomes of the study by appropriate application of the ground rules noted in Table 1.

A mathematical model was next constructed for determining the expected value of Everclear's cumulative, compounded net profits under each price strategy. See Table 2.

This model was then programed for an electronic computer. The simulation was first carried out for the base case assumptions regarding total Verlon-Kromel market growth and cost of capital. Additional runs were made in which these assumptions were varied.

RESULTS OF THE COMPUTER SIMULATIONS

The computer run for the base case showed some interesting results for the relevant variables affecting Everclear's cumulative, compounded net profits position at the end of the planning period. These results are portrayed in Figure 2 through 4.

Figure 2 Cumulative Probability of Kromel's Penetration of Market Segment A (As a Function of Time and Initial Price)

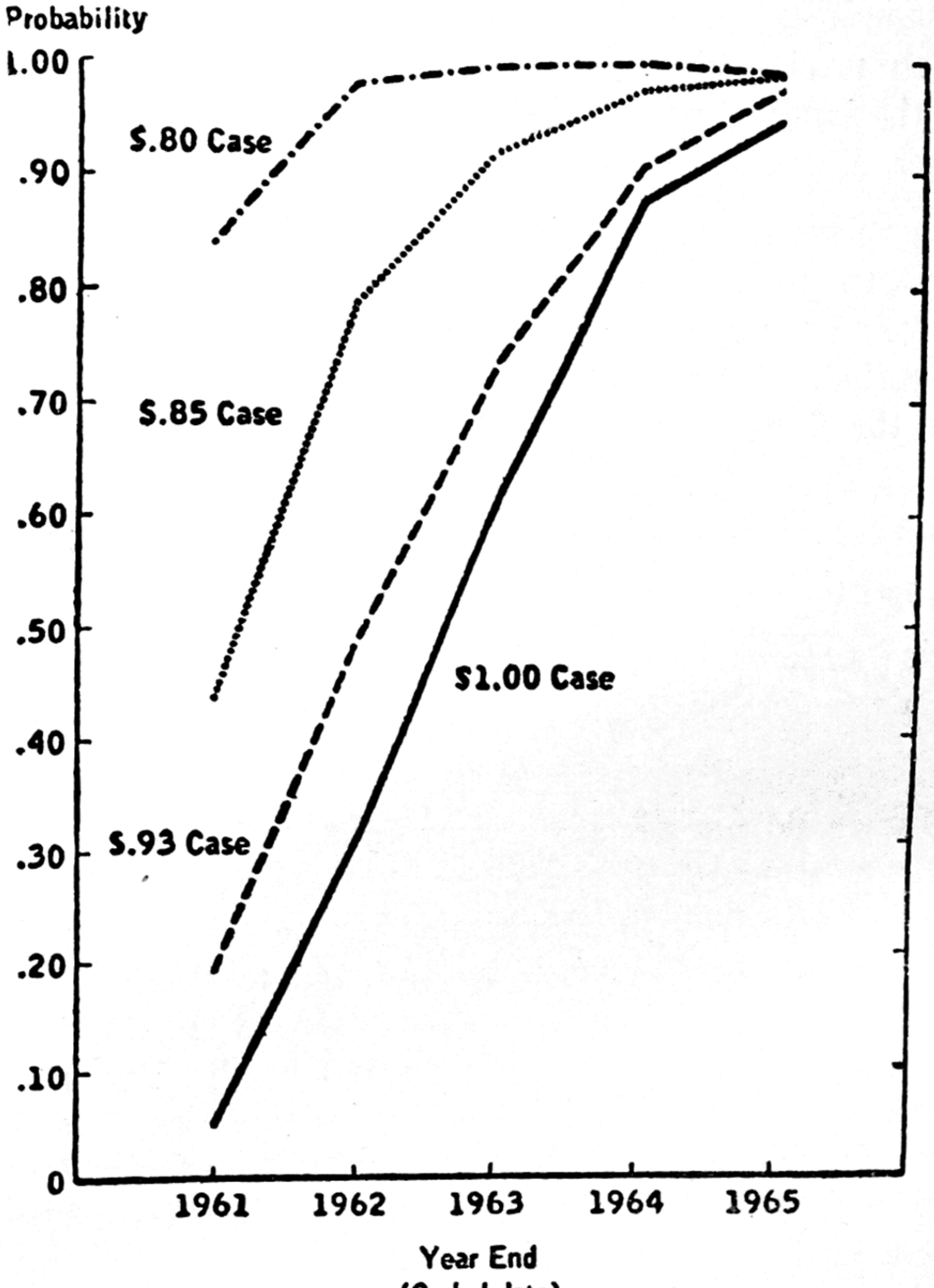
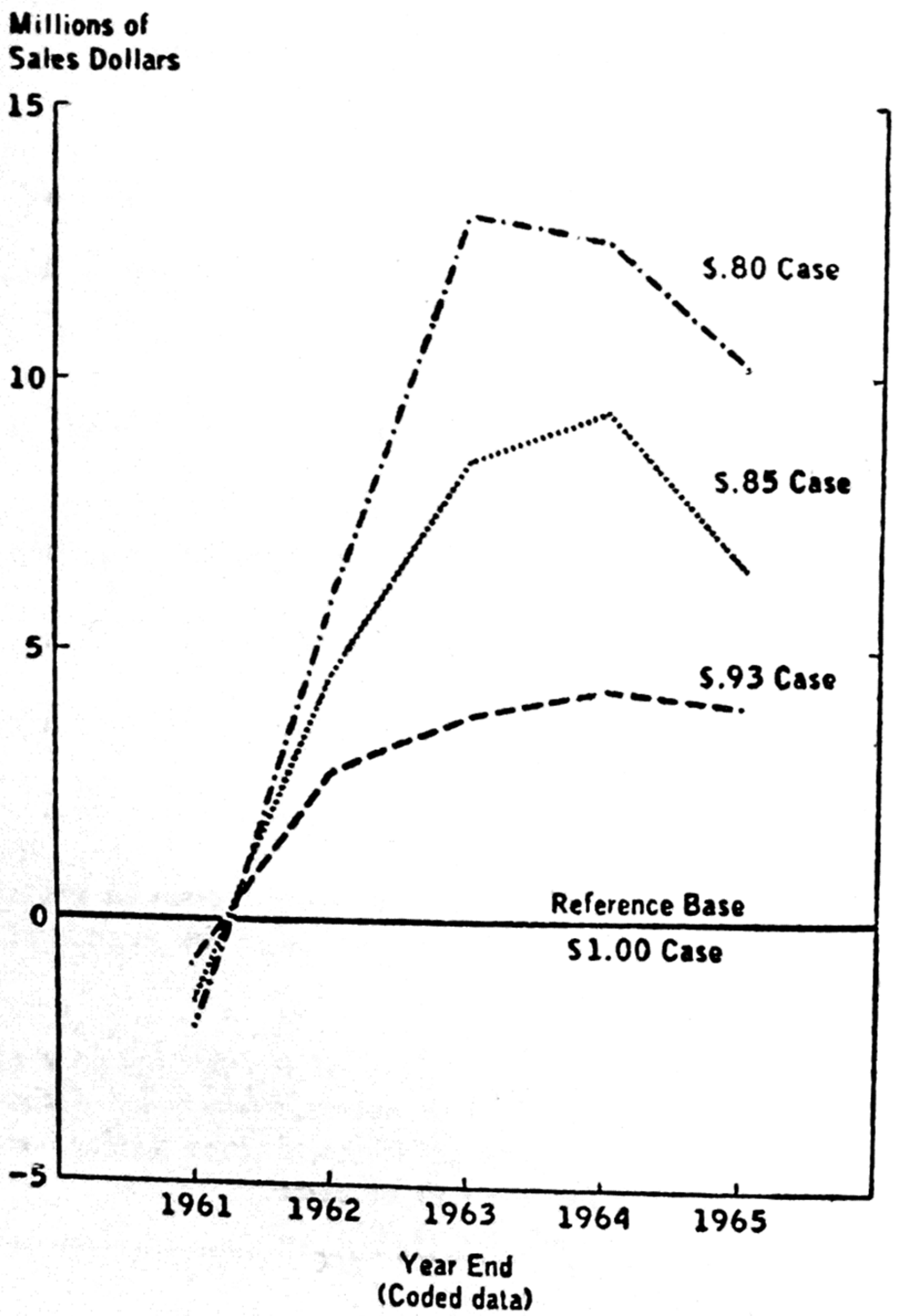


Figure 2 summarizes the cumulative probability of Kromel's penetration of market segment A (the critical factor in the study) as a function of time, under each pricing strategy. As would be expected, the lowest price strategy, the *$.80 case,* carried the highest probability of market penetration. However, the cumulative probability approached 1, that *all* price strategies would eventually effect penetration of market segment A by the end of the simulation period. This behavior stems from the impact of price decreases assumed to be initiated

by Kromel *competitors* (if penetration were not initially effected under the original price strategies) which in turn changed the probability of Kromel's penetration of segment A in later years, since this probability was related to price.

Figure 3 shows the expected incremental sales dollars (obtained by subtracting the expected outcomes of the *$1.00 case,* used as a reference base, from the

Figure 3 Kromel Sales Volume—Everclear Plastics Co. (Incremental Sales Dollars Generated over $1.00 Case)



expected outcomes of each of the other three cases respectively) generated for Everclear under each price strategy. While some tapering off in average sales dollars generated from the price reduction cases compared to the *$1.00 case* can be noted near the end of the simulation period, this tapering off is

less pronounced than that which would be experienced by the total Kromel industry.

The reason for this different pattern is that the price reduction strategies (by reducing the probability of future capacity expansion on the part of existing and potential Kromel competitors) led to gains in Everclear's market share, relative to market share under the *$1.00 case.* These increases in Everclear's market share, under the price reduction strategies, partially offset the decline in incremental sales dollar gains (experienced by the Kromel industry near the end of the period) and thus explain the difference in sales patterns that would be observed between Everclear and the Kromel industry.

Table 2 Kromel Model—Expected Value of Cumulative, Compounded Net Profits

The mathematical model used to determine the expected values of Everclear's cumulative, compounded net profits was follows :

$$CCN(X_k) = \sum_{j=1}^{n} p_j - \sum_{i=1}^{m} [(1+r)^{m-i} T\{(D_{ij} - Z_{ij})(K_{ij}M_{ij})\}]$$

$$Z_{ij} = \phi(K_{ij}M_{ij})$$

$CCN(X_k)$ = Expected value of Everclear's cumulative, compounded net profits under each X_k price strategy ($k=1, \ldots, 4$).

P_j = Probability assigned to the j th outcome ($j=1, 2, \ldots, n$).

r = Interest rate per annum, expressed decimally.

T = Ratio of net to gross profits of Everclear's Kromel operation (assumed constant in the study).

D_{jj} = Kromel price $/pound in the i th year ($i=1, 2, \ldots, m$) for the j th outcome.

Z_{ij} = Cost in $/pound of Everclear's Kromel resin in the i th year for the j th outcome. (This cost is a function of the amount of Kromel pounds sold by Everclear.)

ϕ = Function of.

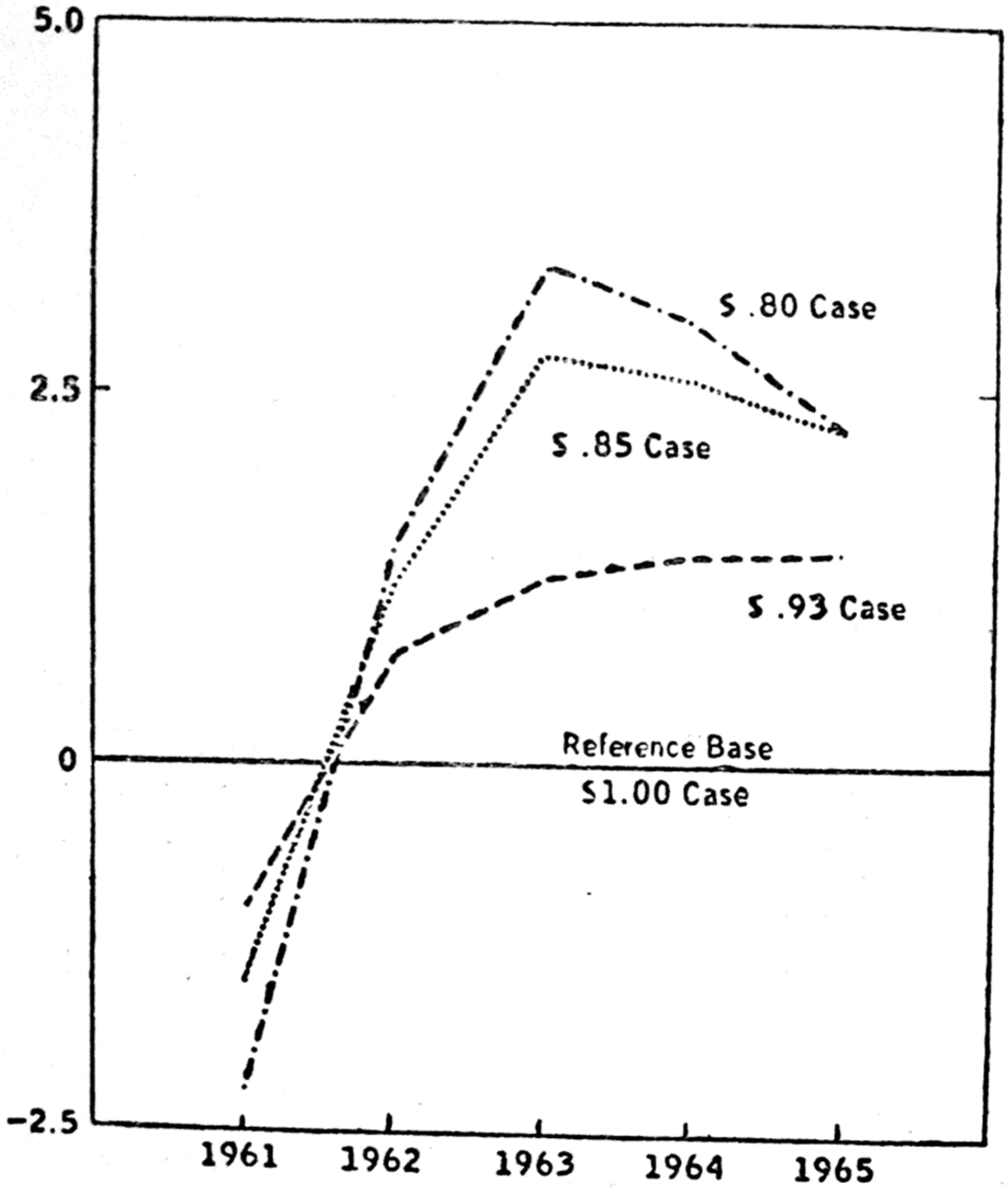
K_{ij} = Everclear's overall market share of Kromel Industry sales (in pounds) in the i th year for the j th outcome (expressed decimally).

M_{ij} = Kromel Industry poundage (summed over all four market segments) in the i th year for the j th outcome.

Figure 4 summarizes the behavior of Everclear's average, year-by-year (compounded) net profits performance again on an incremental basis compared to the *$1.00 case.* As would be expected, time lags in the penetration of segment A, under the price reduction strategies, result in an early profit penalty compared to the *$1.00 case.* This penalty is later overbalanced by the additional

sales dollars accruing from earlier (on the average) penetration of segment A under the price reduction strategies versus the status quo price case.

Figure 4 Compounded Year-by-year Net Profits of Everclear Plastics Co. (Compound Rate Equals 6% Annually)



The overall performance of each pricing strategy on Everclear's cumulative, compounded net profits position (expected value basis) at the *end* of the 5-year planning period is shown in Table 3. These values were obtained by application of the formula shown in Table 2.

Table 3 shows that all of the price reduction strategies yield expected payoffs which exceed the *$1.00 case*. These additional profits stem from two principal sources: (a) the higher profits generated in the middle portion of the planning period, as a function of the increased probability of effecting penetration of market segment A, and its associated effect on Kromel industry sales in market segments B, C, and D; and (b) the higher market share for Everclear, resulting from the influence of the price reduction strategies on lowering the probability of capacity expansion and/or entry by Kromel com-

petitors (existing or potential). These combined factors overbalance the lower profit margins per pound associated with the price reduction strategies compared to the *$1.00 case.*

However, a relevant question arose concerning the influence of the more favorable market share factor (under the price reduction cases) on the outcomes of these strategies vs. the *$1.00 case.* Suppose that no favorable difference in market share were obtained under the price reduction strategies compared to the no-price reduction case. That is, suppose the probability that lower Kromel price would discourage future competitive expansion of Kromel industry capacity in the 1963-64 period were zero. How would this affect Everclear's profit position ?

In order to test the impact of this variable on Everclear's cumulative, compounded net profits, the market share factor was held constant at the trend level estimated under the no-price reduction, or *$1.00 case,* over the simulation period. This analysis resulted in the information given in Table 4.

It is clear from Table 4 that the market share factor is important in producing Everclear's higher profit position as associated with the price reduction

Table 3 Cumulative, Compounded Net Profits—
Everclear Plastics Co. (1961-65)

Price strategy	*End of period profit position*
$1.00 case	$26.5 million
.93 case	30.3 million
.85 case	33.9 million
.80 case	34.9 million

Table 4 Profit Position—Market Share Held Constant
(Everclear's Cumulative, Compounded Net Profits; 1961—65)

Price strategy	*End of period profit position*
$1.00 case	$26.5 million
.93 case	26.9 million
.85 case	27.4 million
.80 case	25.2 million

alternatives noted in Table 3. If increased share for Everclear were *not* obtained in the 1963-65 period (relative to the share expected under the *$1.00 case*), all strategies would yield close to equal payoffs. That is, over the planning period, the increased sales volume resulting from earlier (on the average) penetration of segment A under the price reduction strategies just

about balances the less favorable profit margins associated with these strategies.

However, beyond the planning period, all strategies have for all practical purposes accomplished penetration of segment A. The impact of *higher market share* for Everclear thus assumes an important role toward maintaining higher payoffs for the price reduction cases versus the *$1.00 case.*

When computer run results were analyzed for the sub-cases (varying the total market forecast and cost of capital variables), it was found that the study outcomes were not sensitive to these factors. Although the absolute levels of all payoffs changed, no appreciable change was noted in their relative standing.

In Summary

This illustration has shown two principal findings regarding the expected payoffs associated with the alternative courses of action formulated by Everclear: (a) all price reduction strategies result in higher expected payoffs than that associated with the status quo pricing case and of these, the *$.80 case* leads to the largest expected value; (b) the higher payoffs associated with the price reduction strategies are quite sensitive to the assumption that Everclear's future market share would be favorably influenced by reductions in Kromel price.

Everclear's management is now at least in a position to appraise the *financial implications* of its marketing assumptions in order to arrive at a reasoned selection among alternative choices.

IMPLICATIONS

The preceding illustration indicates the extent of problem detail which can be (and frequently must be) introduced to reflect adequately the characteristics of real market situations. Nevertheless, this illustration omits some important features of Bayesian decision theory.

First, payoffs were expressed in monetary terms (cumulative, compounded net profits) rather than utility, in the von Neumann-Morgenstern sense, as discussed by Schlaifer.[2] One assumes implicitly, then, that utility is linear with money. As tempting as this assumption may be, some small-scale studies at Du Pont in which attempts were made to construct empirical utility functions raise some questions regarding the assumption of linearity. However, this feature of the Bayesian approach may well take many years of further education and development before it may find regular application on the industrial scene.

Second, while a plethora of Bayesian prior probabilities were used in this problem, no mention was made of analyzing sample data and calculating

[2] Same reference as footnote 1, Chapter 2.

posterior probabilities. How does one investigate states of nature in problems of this type? Certainly the problems of conducting meaningful experiments are hardly trivial in pricing problems, or the general area of market planning.

Third, just how detailed a structure can be warranted, particularly when the inputs to the problem are largely subjective in character? One may obviously over-structure as well as under-structure a problem. This *caveat,* however, applies to all model building. While sensitivity analysis may be used to shed light on which variables "make a difference," the fact remains that the model-building process is still based largely on the builder's intuitive grasp of problem essentials and the interplay between analyst and decision maker. The structure of the problem discussed in this article turned out to be complex precisely because the variables included *were* deemed important by the decision maker(s). And part of the analyst's job is thus to examine the impact of supposedly important variables on the relevant payoff junction and then feed back his findings to the decision maker.

Finally, in conducting this study, realistic problems have a way of generating quite a lot of arithmetic detail, for example, a multi-stage set of alternative states of nature and payoffs. Implementation of the Bayesian approach must, therefore, frequently be aided by recourse to a high-speed computing device. Moreover, a computer model also facilitates the task of running sensitivity analyses concerning either changes in probabilities originally assigned to states of nature or changes in the payoff values related to any particular combination of state of nature and course of action.

Our experience has indicated that the Bayesian approach, even coupled with the ancillary techniques of computer simulation and sensitivity analysis, does not offer any foolproof procedure for "solving" market planning problems. Still, it would seem that this method *does* offer definite advantage over the more traditional techniques usually associated with market planning. Traditional techniques rarely consider *alternative* states of nature, let alone assigning prior probabilities to their occurrence. Moreover, traditional market planning techniques seldom provide for testing the sensitivity of the study's outcomes to departures in the basic assumptions.

At the very least, the Bayesian model forces a more rigorous approach to market planning problems and offers a useful device for quickly finding the financial implications of assumptions about the occurrence of alternative states of nature. In time, this procedure coupled with a more sophisticated approach to the design, collection, and interpretation of field data appears capable of providing an up-to-date and flexible means to meet the more stringent demands of dynamic decision situations, so typical in the problems faced by the marketing manager.

29/ Price Policies and Theory

EDWARD R. HAWKINS

The author of this article attempts to bridge the gap between marketing and economics regarding the setting of prices. He concludes that most of the pricing policies described in the marketing literature are merely special cases of the general theory of monopolistic competition.

Although the theory of monopolistic competition is now almost twenty years old it remains virtually unused by marketing students, even those who are attempting to develop theory in marketing. In particular, "marketing price policies" are still treated as though they have no relation to economic theory of any sort. In the leading marketing text books there are sections describing such pricing policies as "odd prices," "customary prices," "price lining," "psychological prices," etc.[1] These are presented as descriptions of market behavior, presumably discovered by marketing specialists and unknown to economists. Even the one marketing text that explains the basic formula under conditions of monopolistic competition fails to use it in the discussion of price policies.[2] Since text book writers treat the subject in this way it is not surprising that practitioners writing on pricing do not attempt to relate their policies to economic theory.[3]

It is the purpose of this article to show that these price policies are special cases of the general theory of monopolistic competition. Perhaps clarification

[1] R. S. Vaile, E. T. Grether, and Reavis Cox, *Marketing in the American Economy* (New York: Ronald Press, 1952), ch. 22; E. A. Duddy and D. A. Revzan, *Marketing* (New York: McGraw-Hill, 2nd ed. 1953), ch. 29; P. D. Converse, H. W. Huegy, and R. V. Mitchell, *Elements of Marketing* (New York: Prentice-Hall, 5th ed. 1952) ch. 10; H. H. Maynard and T. N. Beckman, *Principles of Marketing* (New York: Ronald Press, 5th ed. 1952) ch. 35, 36; R. S. Alexander, F. M. Surface, R. E. Elder, and Wroe Alderson, *Marketing* (Boston: Ginn & Co., 1940) ch. 16. Since these policies are fully described in marketing texts the explanation of them in this article will be brief. The attempt, rather, is to express the policies in terms of demand curves in order that the relationship to the theory of monopolistic competition may be seen.

[2] Charles F. Phillips and Delbert J. Duncan, *Marketing, Principles and Methods* (Chicago: Richard D. Irwin, Inc., rev. ed. 1952), ch. 29, 30, 31.

[3] For example, Osward Knauth, "Considerations in the Setting of Retail Prices," *Journal of Marketing*, v. XIV, No. 1, July, 1949, pp. 1-12; Q. Forrest Walker, "Some Principles of Department Store Pricing." *Journal of Marketing*, vol. XIV No. 4, April, 1950, pp. 529-537.

SOURCE: From *Journal of Marketing*, national quarterly publication of the American Marketing Association, vol. 18, January, 1954, pp. 233-240. Edward R. Hawkins: Professor of Marketing, University of California, Berkeley.

of this point will serve to narrow the gap between the economic and marketing conceptions of pricing, and to systematize the discussions of price policies in marketing literature.

The thesis is that each of the familiar price policies represents an estimate of the nature of the demand curve facing the seller. It is not possible, on the basis of available evidence, to generalize on the validity of these estimates in various situations. The point merely is that a seller using one of these policies is implicitly assuming a particular demand curve. In the following sections various price policies are discussed in these terms, after a brief review of the general theory of pricing which is basic to all of the policies discussed.

THE GENERAL THEORY OF PRICING

The theory of correct pricing under conditions of monopolistic competition, as developed by Chamberlin and Robinson is illustrated in Figure 1. Each seller with some degree of monopoly created by product differentiation has his own negatively-inclined average revenue curve, AR. From this

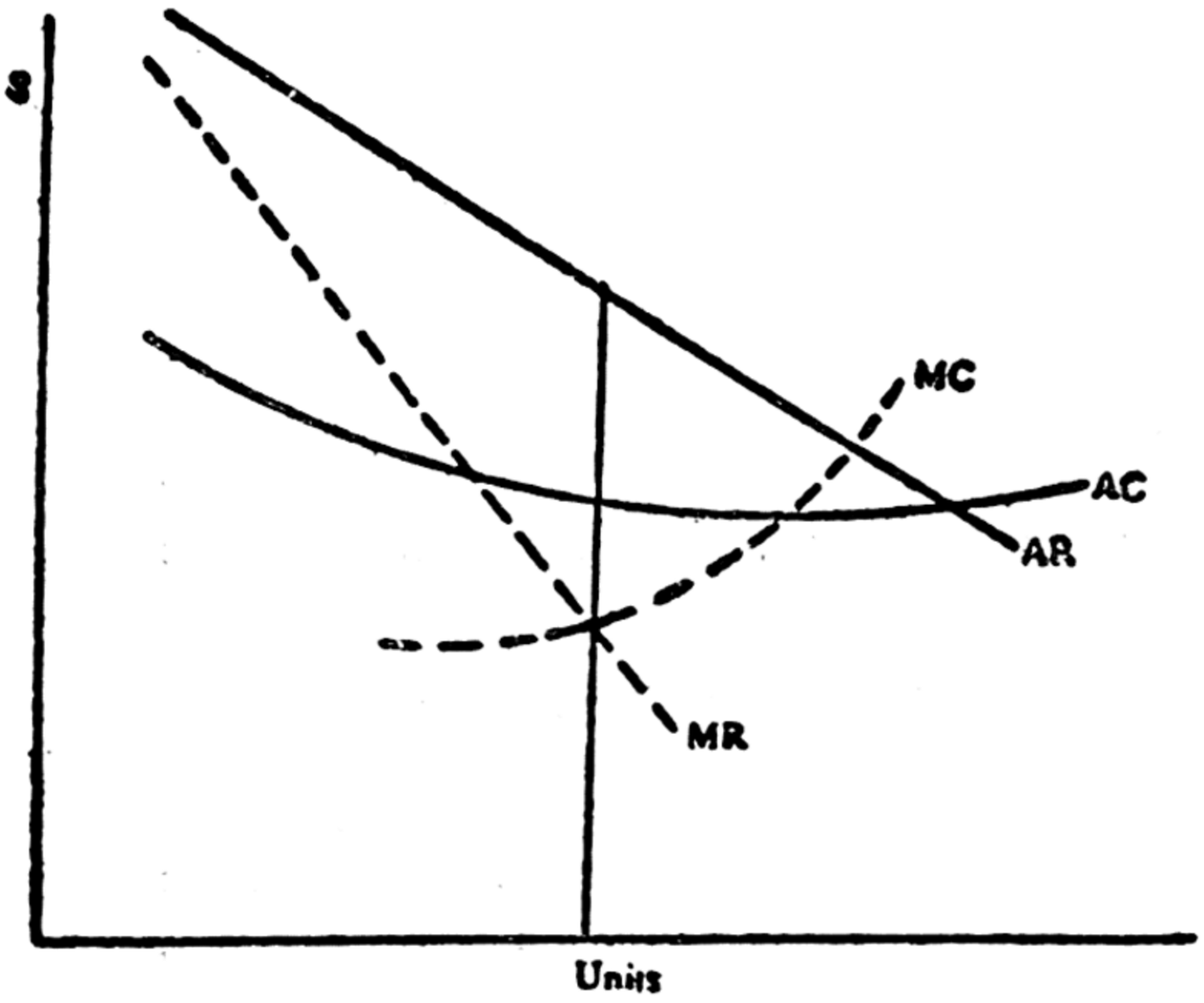


Figure 1

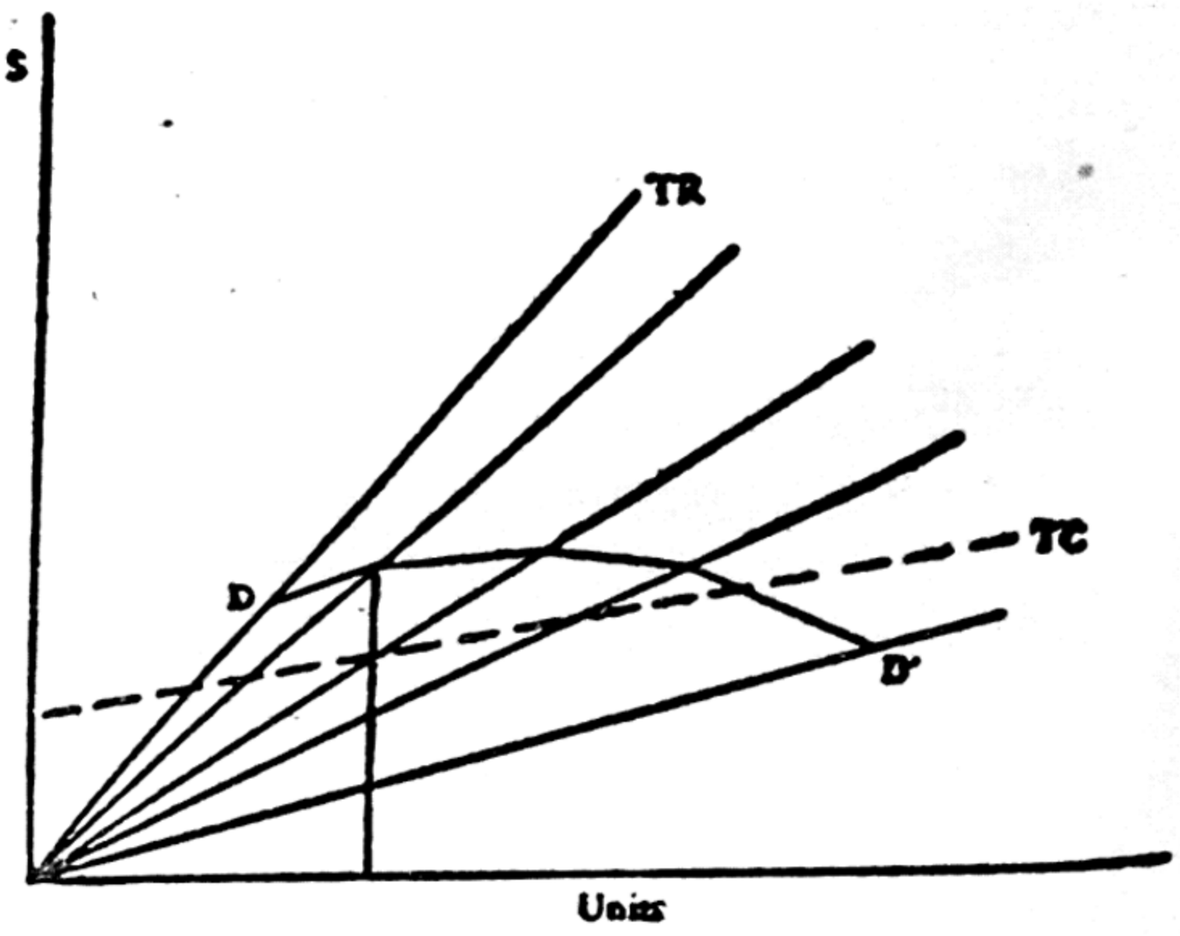


Figure 2

he derives the marginal revenue curve, MR, and determines his price by the intersection of MR and MC, his marginal cost. Marginal cost can be derived from either average cost, AC, or average variable cost, AVC, since it would be the same in either case. In practical terms this means that for correct pricing the seller does not need to allocate overhead cost to individual items. For that matter, he does not even need to compute MR and MC, for the same correct price can be derived from AR and AVC by maximizing the total of the spread between them multiplied by the volume.

An alternative solution which may be more understandable to businessmen can be obtained from break-even charts. The customary break-even chart is

deficient for pricing purposes because it is based on only one price and reveals nothing but the quantity that would have to be sold at that price in order to break even. A modification can be devised that remedies this shortcoming of the break-even chart, and even has some advantages over the MC-MR formula. Figure 2 shows such a chart, in which a number of different total revenue (TR) curves are drawn, indicating the total revenue that would result at various volumes at different prices. On each such TR curve a point can be estimated showing the sales volume that would actually be obtained at that price. If these points are connected a type of demand curve results (DD'), indicating total revenue rather than average revenue as in the usual demand curve.[4] The objective of correct pricing is to maximize the vertical distance between DD' and the TC (total cost) curve. This formulation has an advantage over the MC-MR one in that in addition to indicating the correct price and volume it also shows total cost, total revenue, and total net profit. It may also be more acceptable to businessmen and engineers who are accustomed to break-even charts.

In the following discussion of marketing price policies, however, the AR curve will be used because it more clearly illustrates the points made.

MARKETING PRICE POLICIES

Odd Prices

The term "odd prices" is used in two ways in marketing literature; one refers to a price ending in an odd number, while the other means a price just under a round number. If a seller sets his prices according to the first concept it means that he believes his AR curve is like the one shown in

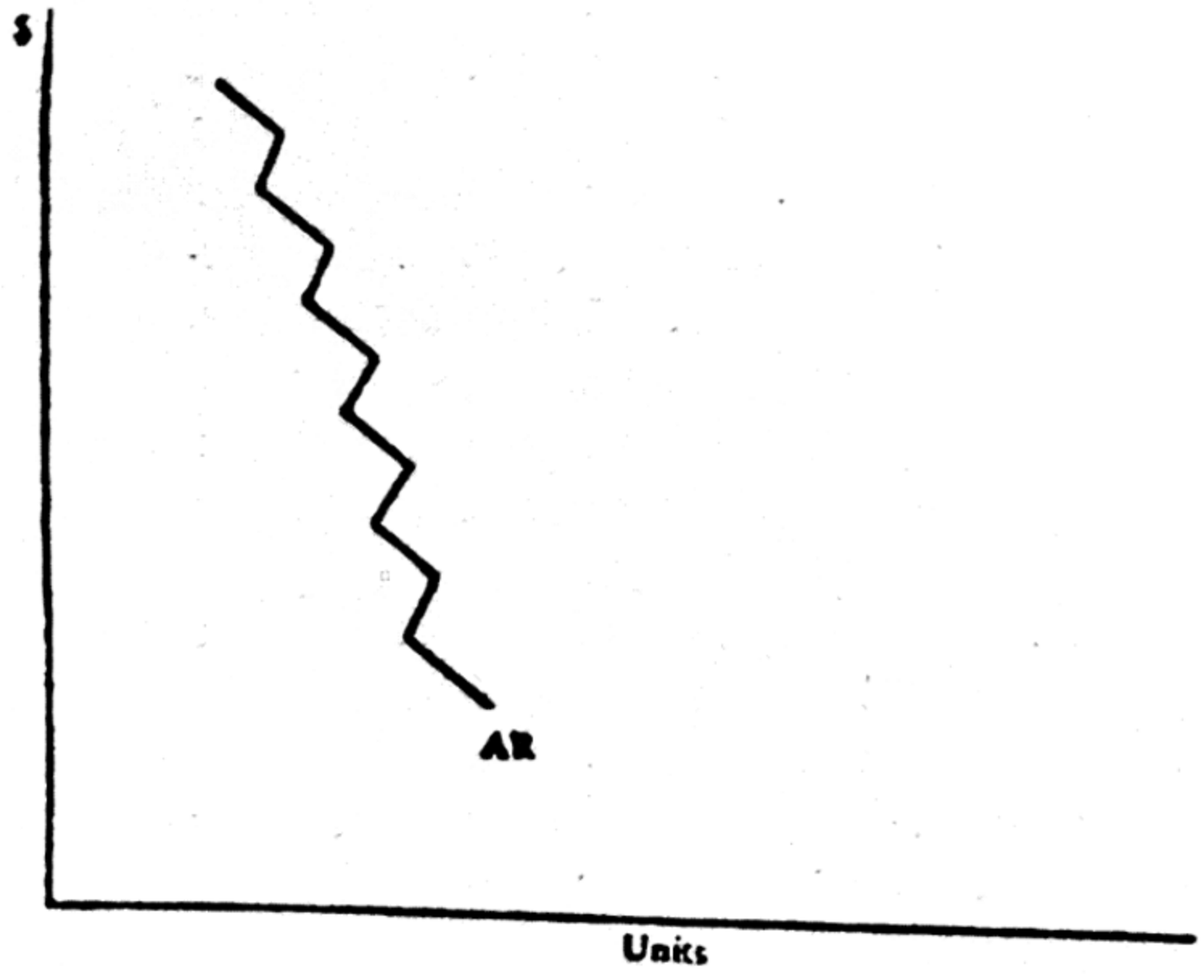


Figure 3

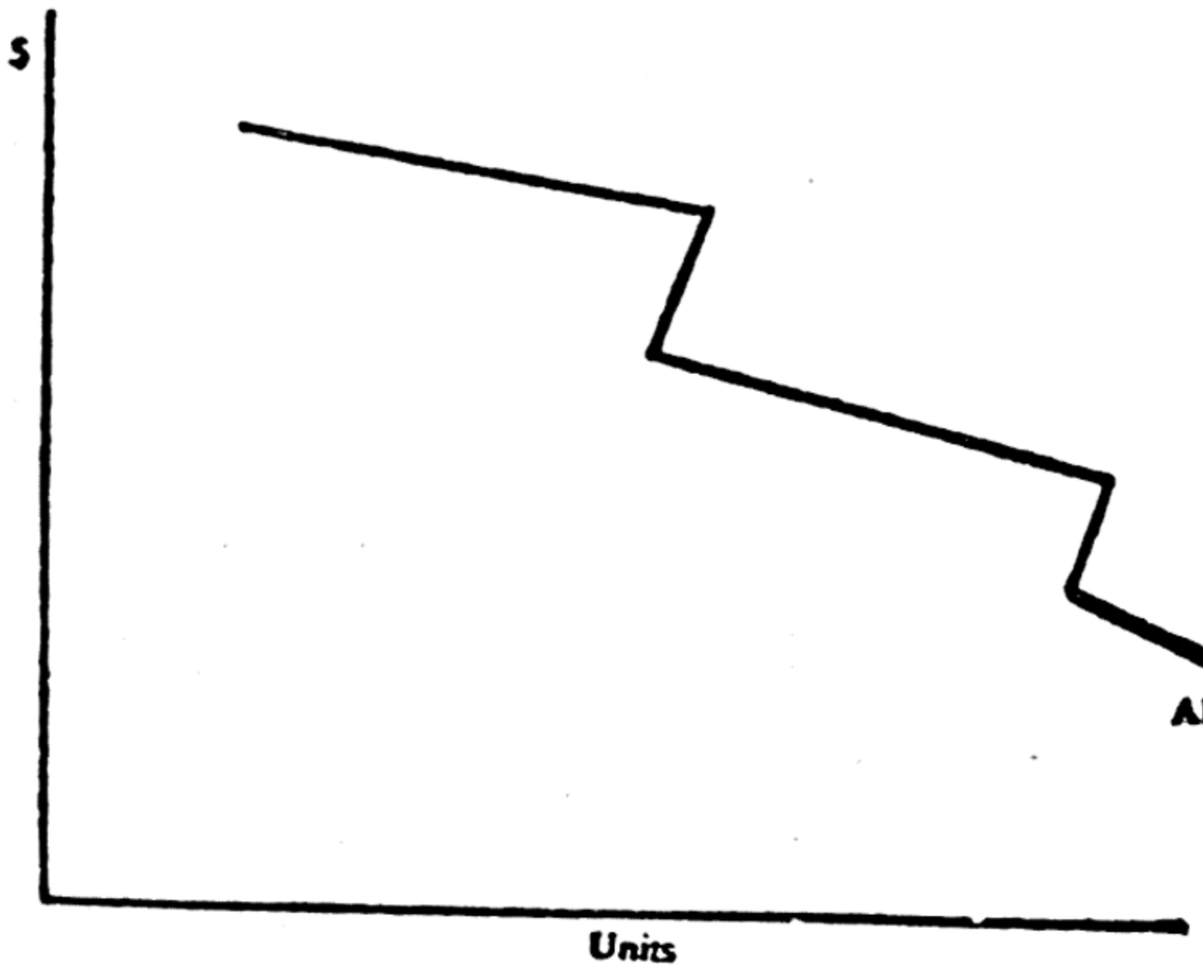


Figure 4

[4] Cf. Joel Dean, *Managerial Economics* (New York: Prentice-Hall, Inc., 1951), p. 405. Dean shows a total revenue curve without, however, indicating its relationship to break-even charts.

Figure 3.[5] In this case each price ending in an odd number will produce a greater volume of sales than the next lower even-numbered price. Many sellers appear to believe this is true, although the only large-scale test ever reported was inconclusive.[6]

The second concept of odd-pricing implies an AR curve like the one shown in Figure 4, with critical points at prices such as $1, $5, and $10.[7] The presumption is that sales will be substantially greater at prices just under these critical points, whether ending in an odd or even number.

[5] This curve might be regarded as discontinuous, especially since the difference between points is only one cent. But it is customary to draw demand curves as continuous even though, as Chamberlin has said, *any* demand curve could be split into segments. E. H. Chamberlin, "Comments," *Quarterly Journal of Economics,* v. XLIX, November, 1934, p. 135; and A. J. Nichol, although drawing important conclusions from the supposed discontinuity of certain demand curves, states that the curves would be continuous if it were feasible to change prices by small amounts. A. J. Nichol, "The Influence of Marginal Buyers on Monopolistic Competition," *Quarterly Journal of Economics,* v. XLIX, November, 1934, footnote 7, p. 126. Henry Smith believes that discontinuous demand curves might result from such heavy advertising of a certain price that the product would be unsalable at any other price. *Cf.* "Discontinuous Demand Curves and Monopolistic Competition: A Special Case," *Quarterly Journal of Economics,* v. XLIX, May, 1935, pp. 542-550. This would not seem to be a very common case, however, since marketing literature reveals heavily advertised products selling at various prices.

[6] Eli Ginsberg, "Customary Prices," *American Economic Review,* v. XXVI, no. 2, 1936, p. 296. Some economists doubt the validity of positively-inclined segments of demand curves, believing either (a) that the case could happen only if consumers regard price as one of the qualities of the product, thus making it improper to show these "different" products on one demand curve, or (b) that it simply does not happen that consumers will buy more of a product at a higher price than they will at a lower one. In regard to the first view, the important thing for purposes of the seller's pricing policy is the shape of the AR curve for what *he* knows is the same product. And while he may be interested in the psychology lying behind the consumer's demand curve he is not committed to the belief that it must be capable of explanation in terms of indifference curves. In regard to the second point, many marketing writers have commented on the view that a higher price will sometimes sell more than a lower one. For example, Phillips and Duncan say it may be possible to sell a greater number of a 15 cent item at 19 cents than at 15 cents (*op. cit.*, p. 656). Q. Forrest Walker, *loc. cit.*, suggests that 98 cents may sell better than 89 cents. Maynard and Beckman state "It is said that more articles can be sold at 17 cents than at 14 cents." (*op. cit.*, p. 656). Converse and Huegy say "Some sellers feel that odd prices are better than even prices; others, that it makes little difference" (*op. cit.*, p. 209). A New England supermarket chain reports that their meat prices never end in the figure "1," because their price tests show they can sell more at a price ending in "3". And a U.S. Department of Commerce study reports a price of 79 cents selling more than a price of 75 cents, and a case where silk underwear sold more readily at $2 or $5 than at $1.95 or $4.95 respectively. *Cf.* F. M. Bernfield, "Time for Businessmen to Check Pricing Policies," *Domestic Commerce,* XXXV (March, 1947) p. 20.

[7] This idea is applied even to very high prices. Thus, an automobile may be sold at $1,995 rather than at $2,000.

Psychological Prices

Some of the marketing text books give the name of "psychological pricing" to policies quite similar to the one just discussed. It has been found in some pricing experiments that a change of price over a certain range has little effect until some critical point is reached. If there are a number of such critical points for a given commodity the AR curve would look like the

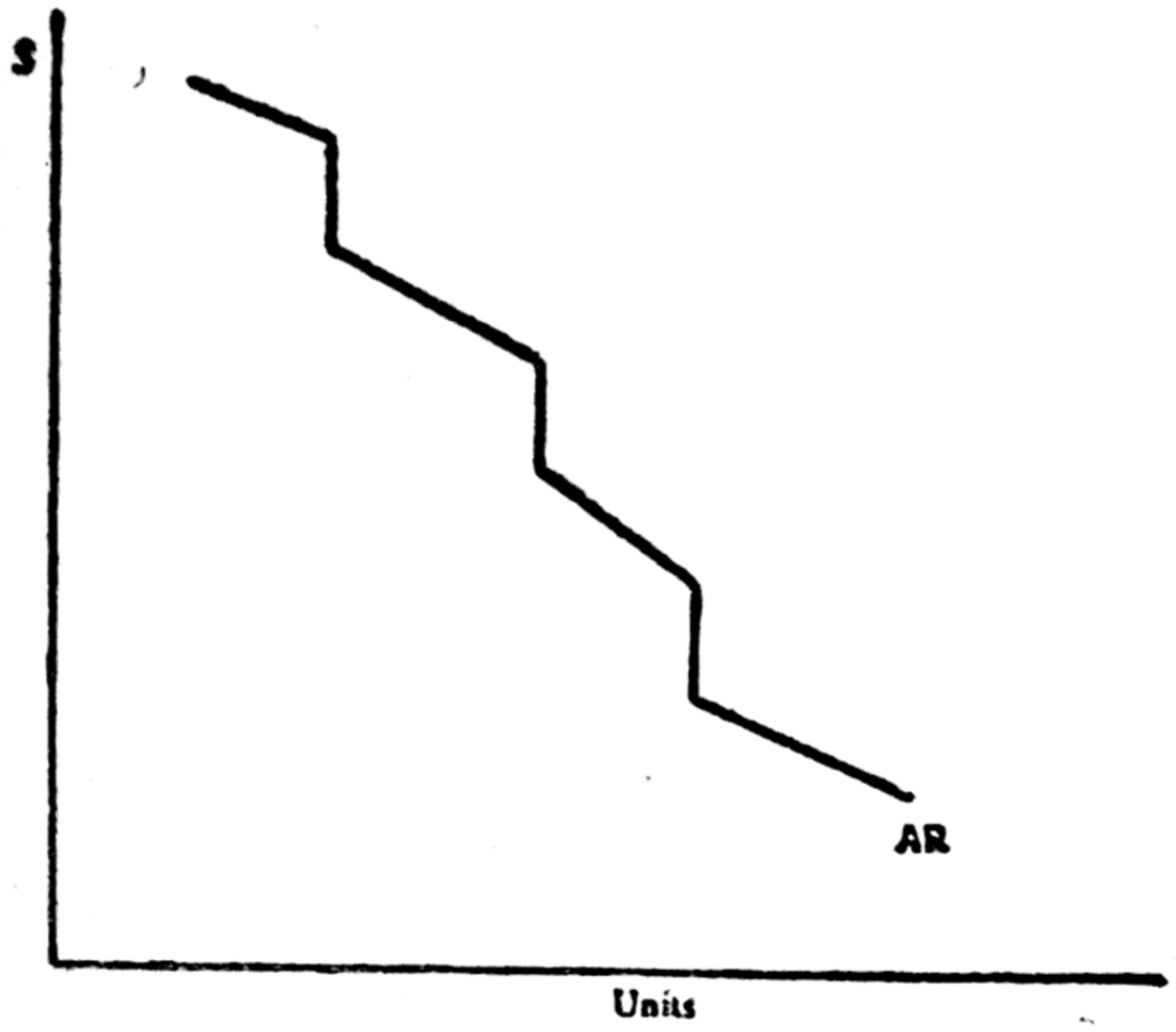


Figure 5

one in Figure 5, resembling a series of steps. This differs from the concept of odd pricing in that the curve does not necessarily have any segments positively inclined, and the critical points are not located at each round number but only at the prices psychologically important to buyers. Pricing tests at Macy's have disclosed such step-shaped AR curves.[8]

Customary Prices

Another pricing policy usually described as though it has no relationship to theory is the one using "customary prices." This is most frequently associated with the five-cent candy bar, chewing gum, soft drink, or subway fare. The chain stores have experimented, apparently successfully, with combination cut prices on some such items, and inflation has brought about upward changes in others. In the main, however, the five-cent price on items for which it has been customary has persisted. To the extent that the

[8] Oswald Knauth, "Some Reflections on Retail Prices," in *Economic Essays in Honor of Wesley Clair Mitchell* (New York: Columbia University Press, 1935), pp. 203-04. Although these tests involved *changes* in price, the important thing is that changes that reduced price below the critical points produced much greater increases in sales than changes that did not. In other words, the demand curve had very different classes at different points.

policy is correct it merely means that the AR curve is like the one shown in Figure 6, with a kink at the customary price.[9]

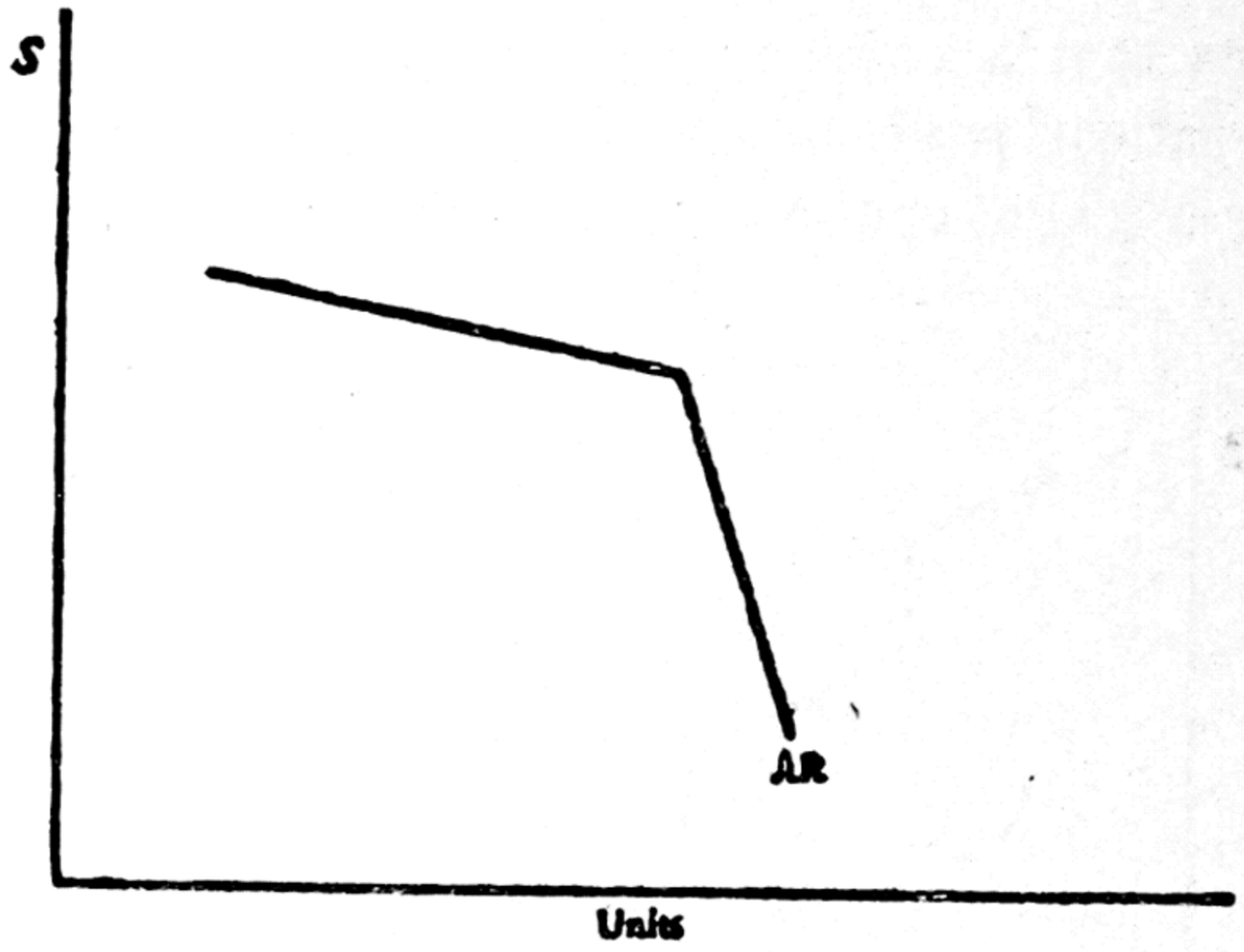


Figure 6

Pricing at the Market

Figure 6 also illustrates the estimate of the AR curve which results in a policy of "pricing at the market." A firm that adopts this policy believes that a price above those of competitors would curtail sales sharply, while a lower price would not significantly increase them. This pricing policy is one of the most common, possibly because ignorance of the true shape of the AR curve suggests that the safest policy is to imitate competitors.

The policy of pricing at the market is also designed to avoid price competition and price wars. But a rule-of-thumb policy is not the correct solu-

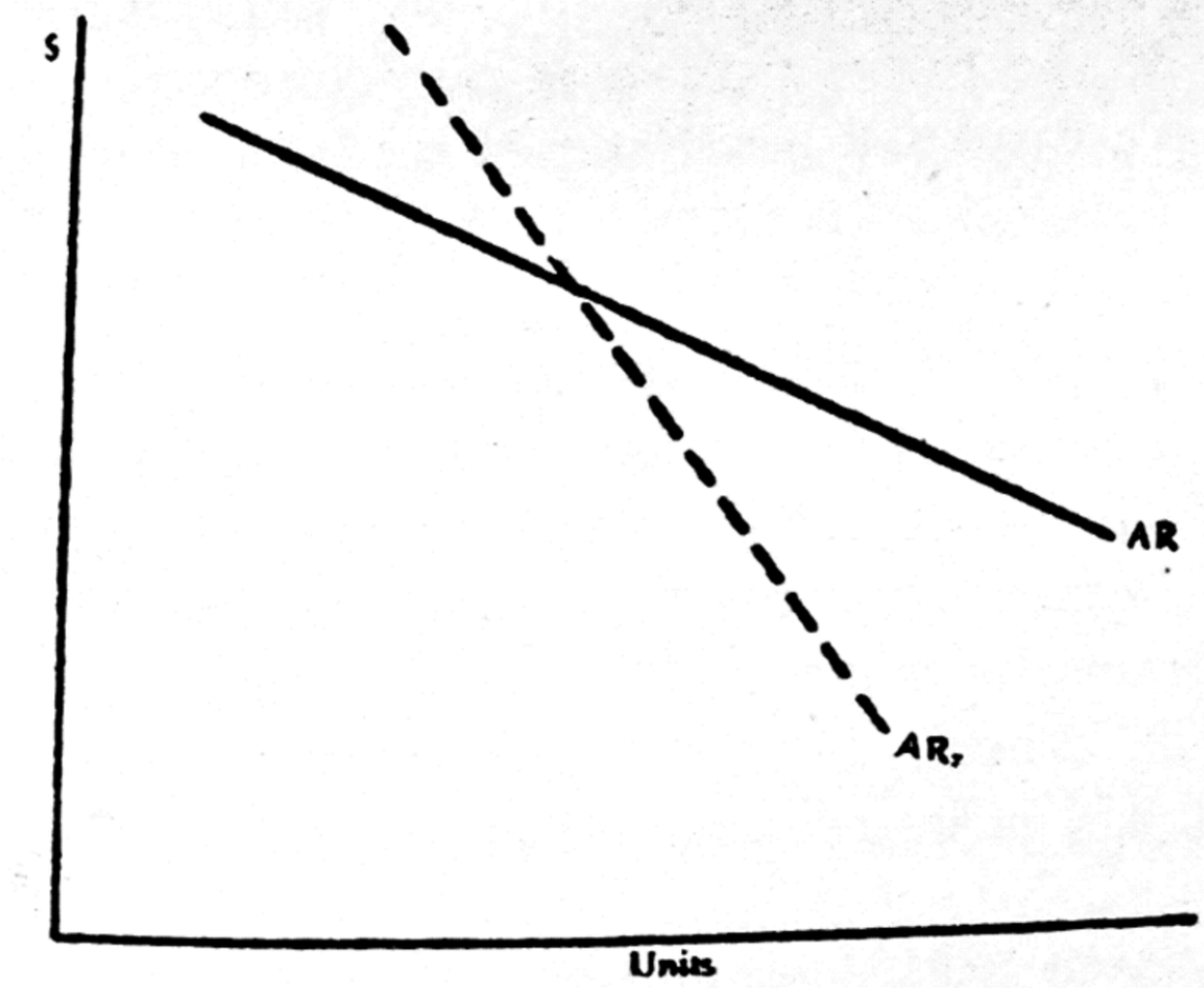


Figure 7

[9] Of course where the policy of customary price is not correct, as may be true in some of the store cases mentioned, the demand curve would be quite elastic below the customary price.

tion to this problem, for the theory of monopolistic competition provides the basis for the proper calculation. What is required is an estimate of the AR curve after competitors have made whatever response they would make to the firm's pricing moves. In Figure 7 this is indicated by AR_2, while AR is the customary curve based on an assumption of "all other things remaining the same." While it is very difficult for a seller to guess what competitors will do, the theory of correct oligopoly pricing along the AR_2 curve is quite clear, and does not necessarily call for "pricing at the market."

Prestige Pricing

It has often been pointed out in marketing literature that many customers judge quality by price. In such cases sales would be less at low prices than at high ones. This idea was the original legal basis for Fair Trade laws. While most manufacturers appear to be less impressed by this possibility than retailers are, there have been cases reported in which low prices led to reduced sales. The shape of the AR curve illustrating this situation has already been indicated in economic literature.[10] See Figure 8.

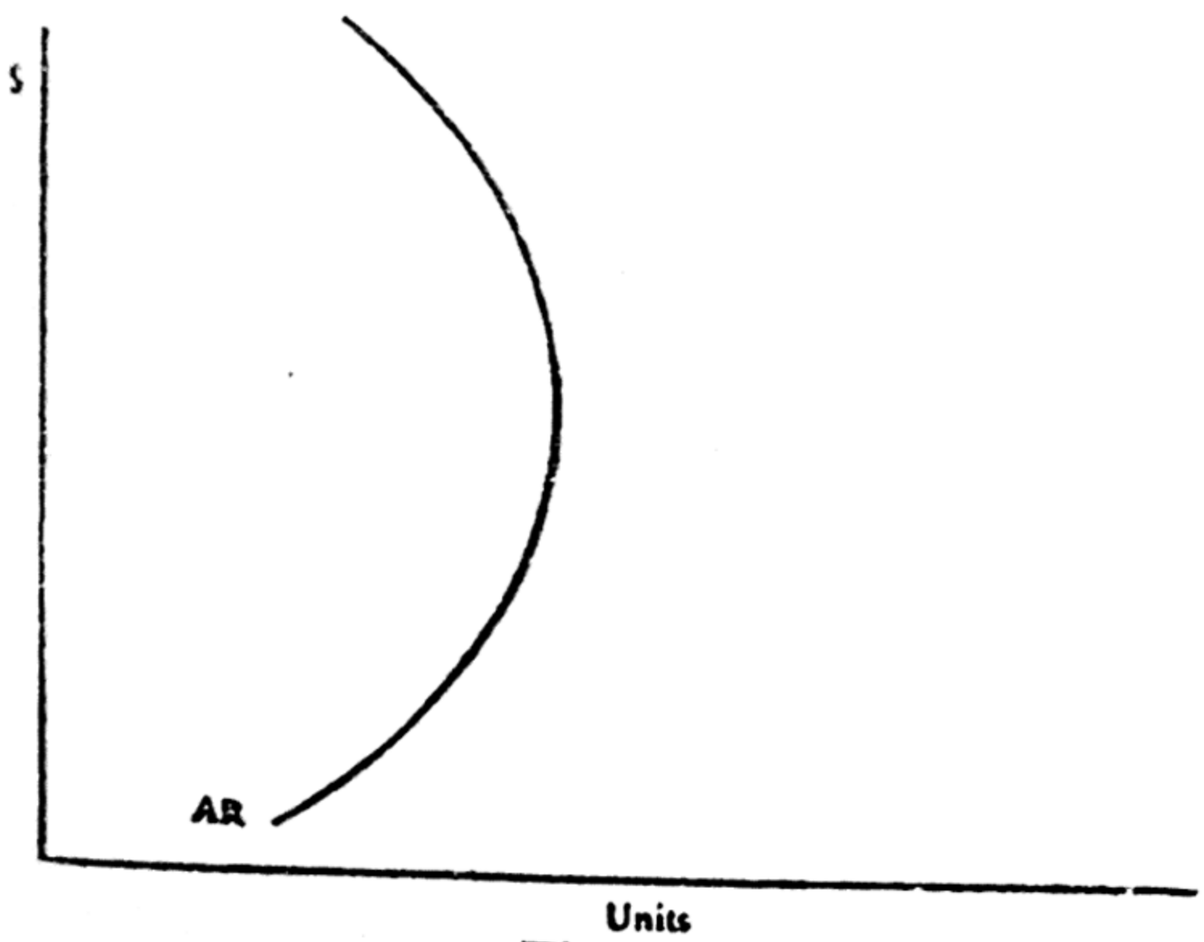


Figure 8

Price Lining

Many retailers when questioned about their pricing policies seem to feel they have avoided the problem entirely by adopting customary price "lines." Once the lines are decided upon, prices may be held constant over long

[10] F. R. Fairchild, E. S. Furniss, and N. S. Buck, *Elementary Economics* (New York: Macmillan Co., 1939), 4th ed., v. 1, p. 166. Converse and Huegy cite an instance of aspirin being tried out at different prices, 19 ¢, 29 ¢, 39 ¢ and 49 ¢, with the highest sales resulting at 49 ¢ (*op. cit.*, p. 207). And they comment on this reason for positively inclined demand curves. "Thus merchandise can be priced too low as well as too high. Customers may fear that at the low price it cannot be of good quality, and will actually buy more at a somewhat higher price than they would at a lower price" (p. 206).

periods of time; changes in market conditions are met by adjustments in the quality of the merchandise.

While this policy does not require pricing decisions, except initially and in case of special sales, it does present the seller with exactly the same choice as a variable price policy does in respect to the question of whether to equate marginal cost and marginal revenue, or to use a customary per cent of markup. This decision is made with reference to the prices paid for merchandise rather than the prices at which it will be sold. Although manufacturers and wholesalers dealing in types of merchandise which is customarily price-lined at retail usually tailor their own prices to fit the retail prices, the retailer does have some choice in regard to the quality of goods he buys. Presumably, the more he pays the more he can sell, at any given price line. That is, the lower his per cent of markup the higher his sales volume should be. Figure 9 illustrates this situation, where P is the established price at retail, and CG shows the various quantities that could be sold at different costs of goods to the retailer. The retailer should equate his marginal cost with marginal revenue (the price), paying NM for the goods and selling quantity OM. If instead he buys at a price that provides a customary or arbitrary per cent of markup it would be purely accidental if he would obtain the maximum gross margin.

Since there are few variable costs associated with the sale of most items at retail, except the cost of goods, the retailer's aim in general should be simply to maximize his gross margin dollars. If, however, other variable costs are significant they can be added to the cost of goods and a calculation made of the average variable costs, from which marginal cost can be computed. In Figure 9 the curve CG would merely be replaced by an AVC curve.

Resale Price Maintenance

Another situation in which the retailer feels he has no pricing problem is when the manufacturer maintains resale prices by means of Fair Trade con-

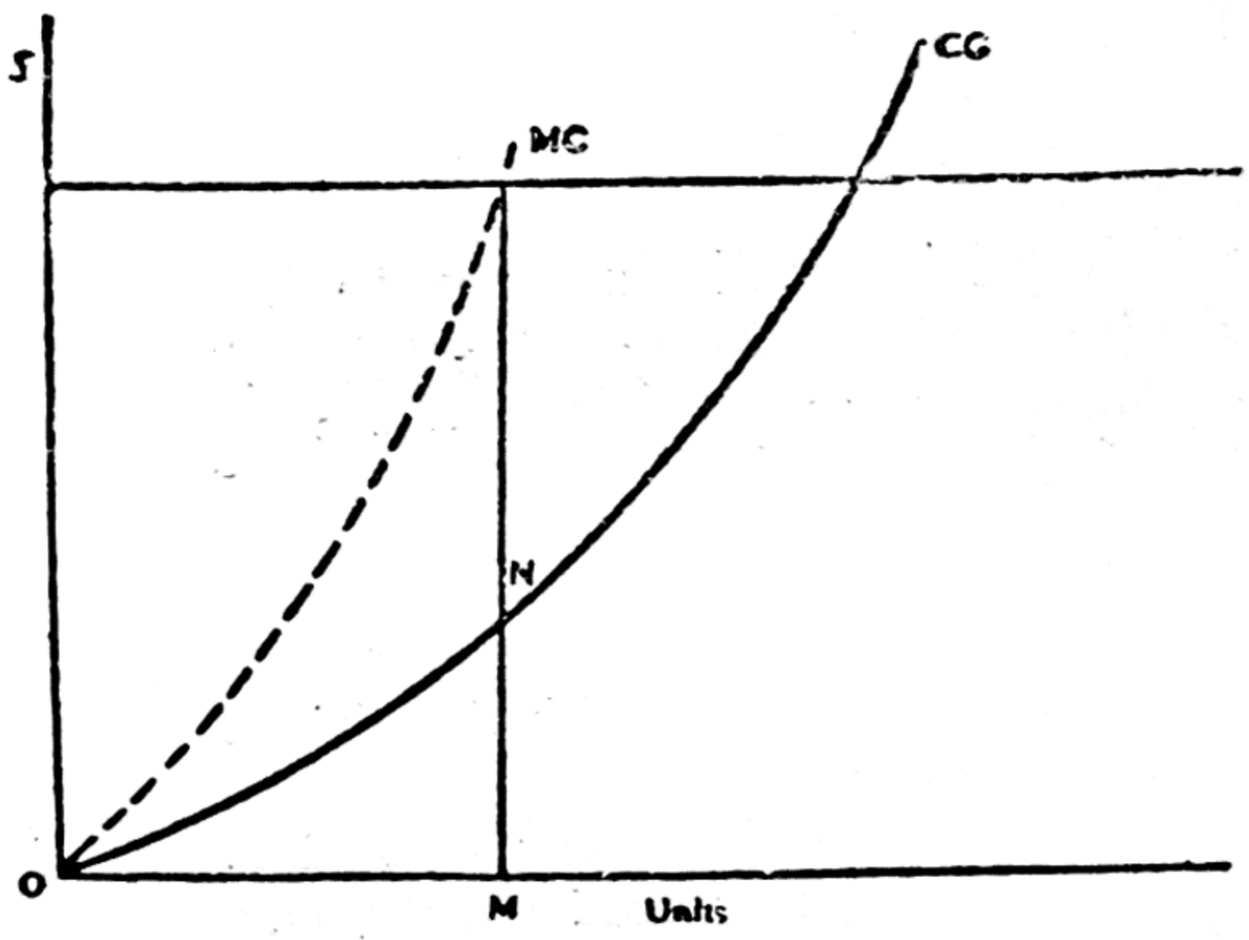


Figure 9

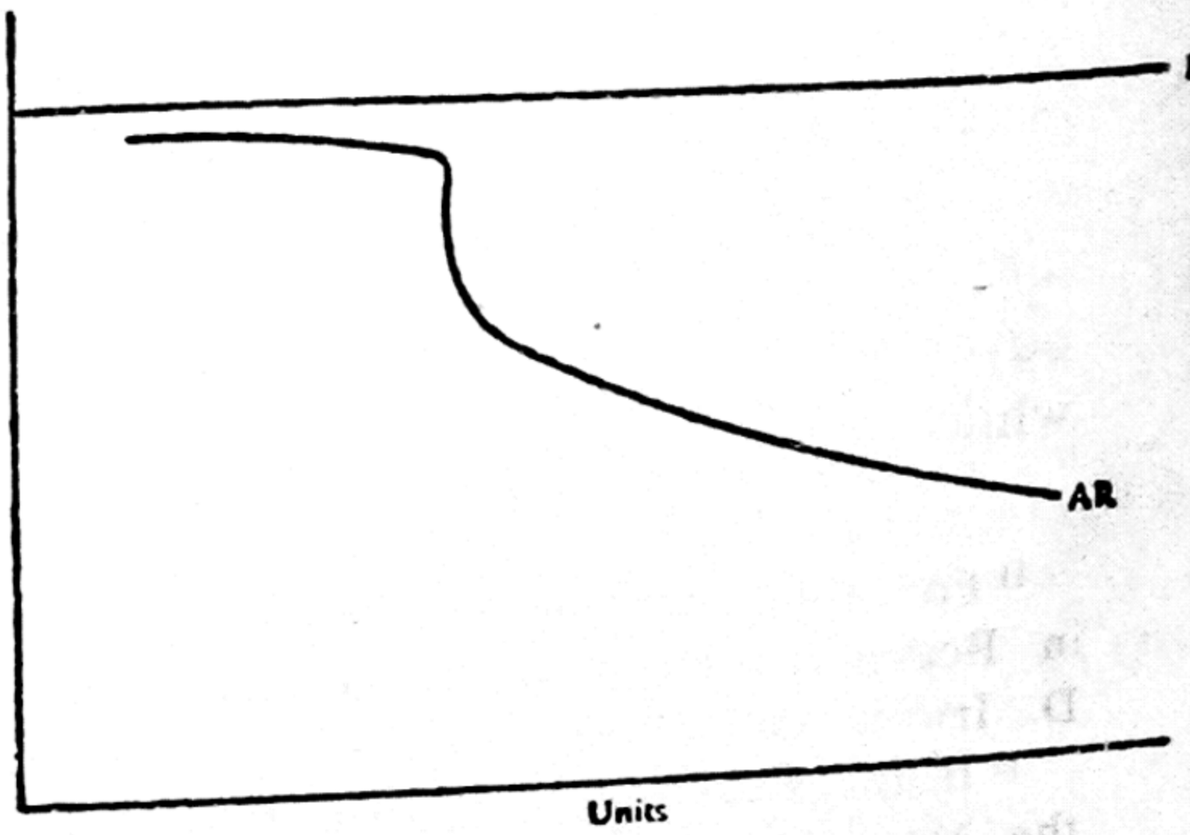


Figure 10

tracts. Even here, however, the retailer may find it advantageous to sell above the Fair Trade price in some cases, in States where the Fair Trade laws call for minimum rather than specified prices. In any case the retailer must decide whether to equate marginal cost and marginal revenue or to insist upon a customary per cent of markup. If he selects the latter he may refuse to handle, or to push, many low markup items which would actually be very profitable to him.

The price policy appropriate for a manufacturer using resale price maintenance is illustrated in Figure 10. At any given retail price, P, which he may set, he will have an AR curve determined by the retailers' attitudes towards the amount of markup resulting from the price at which he sells to them. At low markups some dealers will refuse to handle the item, and others will hide it under the counter. At relatively high markups dealers will push the item and will be able to sell more than consumers would otherwise take at the given retail price. The manufacturer should calculate his optimum price by computing MR from this AR curve and equating this with his MC. He should do this with the AR curve associated with each retail price and then select the combination of retail and wholesale prices that will result in maximum profit for him.[11]

Quantity Discounts

Quantity discounts are usually described in marketing texts and explained in terms of the lower unit cost of handling large orders, or simply the desire to increase sales volume. Economic analysis of the quantity discount policy would focus on the theory of price discrimination. With reference to this theory, a quantity discount schedule, open to all buyers, is a very rough device for price discrimination, and should not be used if the laws allowed freedom of discrimination. Instead, the seller should estimate the demand curve of each buyer and offer each the price (or prices) that would maximize the seller's revenue in respect to that of buyer.[12] This might well mean lower prices for some small buyers than for some large ones, depending on the elasticity of their demand curves.

Figure 11 illustrates a case in which the large buyer's demand curve is inelastic in the significant range, while the small buyer's curve is quite elastic. It would therefore be foolish to offer them a quantity discount schedule that would give the large buyer lower prices than the small one. The large buyer would take almost as large a quantity at high prices as at low ones, while the small buyer will not. This may not be a usual situation, but it is

[11] For a fuller discussion see E. R. Hawkins, "Vertical Price Relationships," ch. 11 in Reavis Cox and Wroe Alderson (ed.), *Theory in Marketing* (Chicago : Richard D. Irwin, Inc., 1950).

[12] If the buyer is in a monopsonistic position he does not have a demand curve in the Marshallian sense, but it is possible to estimate how he will respond to various price offers.

a possible one and indicates that the seller should consider the elasticities of demand rather than adopt an arbitrary discount schedule.

The correct theory of price discrimination, where each buyer is to be offered a different price, has been outlined by Mrs. Robinson.[13] It indicates that the seller should equate the marginal revenue from each buyer with the marginal cost of the entire output.

Different costs of selling to different buyers can be taken into account by computing the AR curves as *net* average revenue curves, after deduction of the variable costs associated with the particular sales. And it would still be possible that the large buyer should be charged a higher price than the small one.

Some economists have used the term "quantity discount" to refer to a situation, unusual in marketing practice, in which each buyer is offered a quantity discount scale tailored to his own demand curve.[14] Of course a "quantity discount" of this kind would usually produce more net profit for the seller than a single price to each buyer, since it is an approach toward the maximum profit situation of perfect price discrimination, in which each buyer would be charged the highest price he would be willing to pay for each successive unit he bought. A seller may be attempting to gain some of the advantages of this type of pricing when he constructs a general quantity discount schedule with an eye to its effects on certain large buyers. In so doing, he would have to take care that the gain would not be cancelled by the adverse effect of the schedule on his net profits from other buyers.

Geographic Pricing

While some economists have long been concerned with the geographic

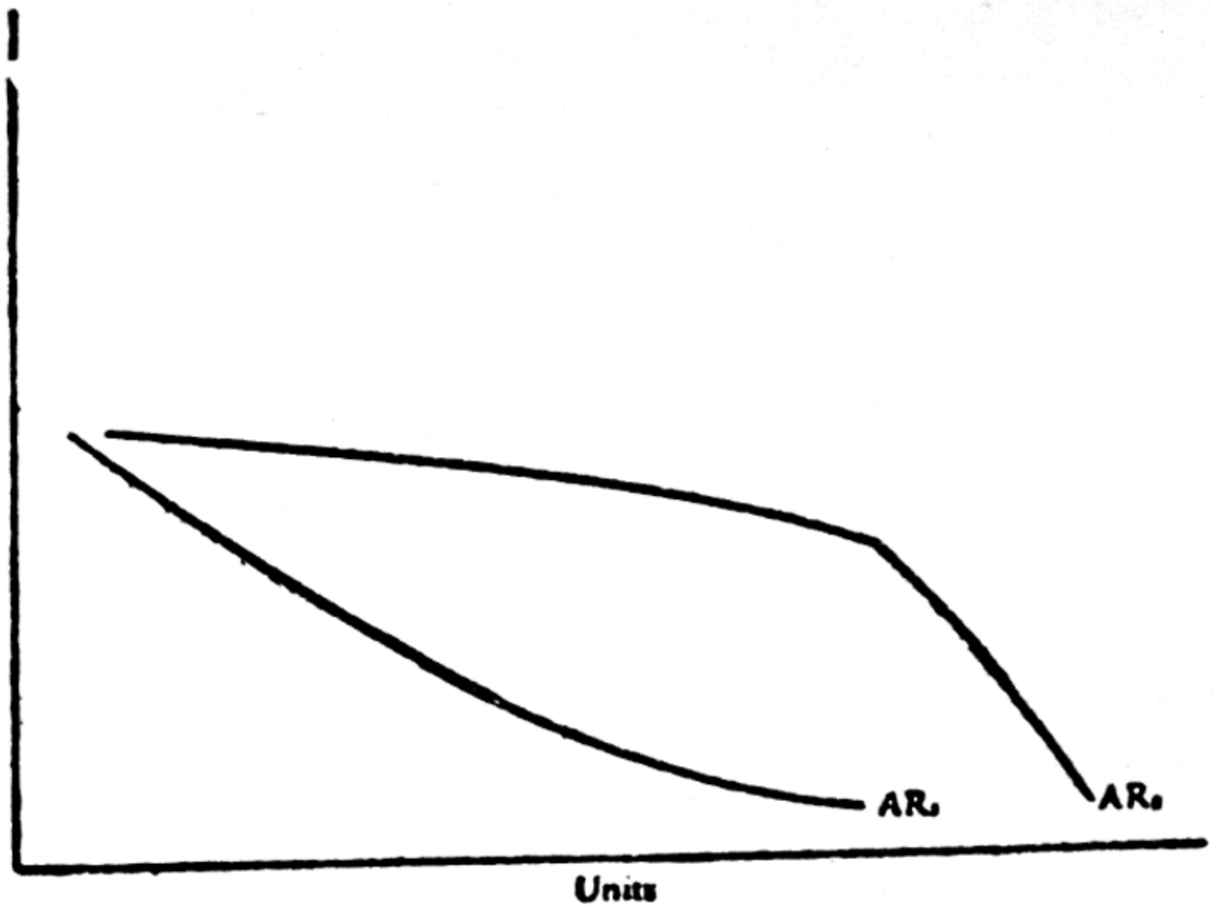


Figure 11

[13] Joan Robinson, *The Economics of Imperfect Competition* (London : Macmillan Co., 1933), p. 182.

[14] James M. Buchanan, "The Theory of Monopolistic Quantity Discounts," *Review of Economic Studies,* v. XX, no. 3, 1952-53.

aspects of pricing, and this interest has recently been spreading, on the whole marketing specialists and economic geographers have regarded the spatial aspects of economics as their own province. Unfortunately they have developed theories which do not include the essential economic aspects of the problem. Figure 11 may be used to illustrate some of the problems of geographic pricing. If the AR curve of each buyer is taken as a *net* average revenue curve, after deduction of transportation costs, then it is clear that the nearer buyer should not necessarily be given the lower delivered price. The elasticity of each buyer's demand curve is the important factor which should be considered. As has been indicated by Mrs. Robinson, the correct net price to each buyer would equate the seller's marginal revenue with the marginal cost of his entire output.[15]

While the Robinson-Patman Act does not permit the free price discrimination that would maximize the seller's profit, it does allow some discretion in pricing. The seller is not permitted to employ price differentials greater than his cost differentials, but he is free to give discounts less than the amount of cost saving to him. Moreover, he is allowed some discretion to employ price differentials when the buyers are not in competition with each other, or where he himself is "meeting competition." He may also, of course, discriminate by selling slightly different products, under different brand names.

CONCLUSION

The discrepancy between economic theory and actual pricing policies, as observed by marketing specialists, is more apparent than real. Most of the pricing behavior reported by marketing students is quite consistent with the general theory of monopolistic competition and can be integrated with that theory. A considerable gain can be made on both sides if this integration is accomplished. Economists need to know more about the pricing policies actually used by businessmen. On the other hand, marketing students can understand these policies better if they appreciate the theoretical basis for them. Most of the "price policies" described by marketing specialists are merely special cases of the general theory of monopolistic competition. If so regarded, not only would clarification result, but perhaps additional insight would be gained regarding the advantages and disadvantages of each policy, and the situations to which they are appropriate.

[15] Joan Robinson, *loc. cit.*

30 / A Note On Some Experimental Findings About The Meanings Of Price

HAROLD J. LEAVITT

In this article the author questions the applicability of conventional price analysis to branded products because it assumes a rational consumer behavior towards price. In support of this contention he cites the findings from experiments which were conducted to determine the meaning of price to consumers.

Conventional price analysis takes the generalized view that demand curves are negatively sloped. The purchase of a product is expected to decline as its price increases and to increase as its price declines—other factors being equal. The exceptions to this rule are usually attributed to the inequality of these other factors. Rare exceptions at the extreme necessity end of the product range have been accounted for by the "income-effect" concept. But the general rule is an inverse price-volume relationship, both for generic classes of products and for brands within classes.

This note questions one part of this prevalent conception of the price-volume relationship. It questions especially the applicability of conventional analysis to brands within product classes; and it further questions the assumption of "rational" consumer attitudes toward price implicit in such analysis. More positively, this paper is concerned with the idea that the price of a product may be given more than one interpretation by a potential buyer. It is concerned also with the hypothesis that several interpretations may coexist and conflict, often, too, leading the consumer finally to select a higher rather than a lower-priced brand.

Unfortunately, this note cannot survey the research that has already been carried out in this area. So far as the writer knows, there has been no published research directly concerned with the consumer's interpretation of price. In general, we seem implicitly to have assumed that money, for the consumer, means something-not-to-be-given-up. However, some indirectly related published material does exist. There is, for example, a good deal of observational material by retailing people pointing to "oddities" in which consumers will choose a higher-priced item in preference to a lower-priced one of equal quality. Some psychologists have also worked at the general

SOURCE : From *Journal of Business*, University of Chicago Press, vol. 27, July, 1954, pp. 205-210. Harold J. Leavitt, Associate Professor of Business Administration, School of Business, University of Chicago.

problems of decision-making and predicting choice behavior. Although all these materials are indirectly relevant, a big untapped area seems to remain—the area concerned specifically with the influence of price on consumer choice.

Each of us needs only to refer to his own experience as a consumer to agree that a price difference may have more than one meaning. Most often, perhaps, we think of high prices negatively, in terms of the sacrifice we must make to get what we want. In other cases, however—and in enough cases to be worth counting—we think of a higher price positively, as a symbol of extra quality or extra value or extra prestige. In some cases, perhaps, we buy a higher-priced brand just because it is higher.

It seems important here to distinguish between price differences and price changes. Our concern is only with differences between already established prices of competing brands or the prices of new products. When an established price of one brand is changed, we have quite a different psychological phenomenon, for now the consumer has three pieces of information to interpret—the old price of the brand, the new one, and the prices of the competing brands. This is a different and more complicated situation than the one we have been talking about—the simple difference between established prices of competing brands (or between the prices of new products).

Stated this way, there is nothing very startling about the idea that, other things being equal, the various meanings of price may sometimes resolve themselves into a decision to buy a higher-priced item, sometimes a lower-priced one.

But if we approach the same idea from the perspective of the price-maker rather than of the consumer, the problem begins to look a little different. When we view the world as price-makers, we tend to shift over toward the notion that price has but one meaning and that the meaning is always a kind of negative, economic meaning that drives the cosumer invariably toward the lower-priced brand. For example, this "elasticity" question is often raised in one form or another "How many more unit sales will we gain if we price our brand X cents under competition?" Or, conversely, "How many unit sales will we lose if our price is X cents higher than competition?" The assumption built into these questions is the widely accepted one that the consumer just naturally will be more ready to buy lower-priced than higher-priced brands in a competitive market. In effect, this is the view that the demand curve is always negatively sloped. Therefore, one need be concerned only about a unidirectional price-volume relationship.

Might not these questions be legitimately restated this way: "How many unit sales will we lose or gain by setting our prices above those of competitors? Or by setting them below those of competitors?" This revised version may look especially silly to price-makers who do not work with consumer products. Perhaps it looks a bit more sensible to people selling consumer products—especially to retailers who have observed the phenomenon of the dormant shirt that comes to life when the price is marked up.

Some Experimental Possibilities

If there is room for debate about problems like these, there is also room for experiment and analysis. One way to go about systematizing these problems is to think about choice situations in which one might hold constant all variables other than price and then vary price and observe choice behavior.

To do this would require us to set up situations in which the consumer must choose among two or more brands, when all he has to go on is price information. We can give him other information about the brands, but not other differential information. We can ask him to choose, for example, between two unknown (to him) brands of canned peas. Both cans will be the same size, with covered labels; he can be told that both are "large" size, "select" peas, etc. But their prices differ. If price has only one meaning—an economic "sacrifice" meaning—then obviously our consumer will simply choose the lower-priced brand. If price sometimes has more than an economic meaning, if it also carries with it some implications about quality or good value or social propriety, then we would expect (1) that the consumer would feel some "conflict" in making a choice and (2) that he would in some cases make the higher-priced choice. The pressures toward the lower price, in other words, deriving from his concern about spendng his money, might be balanced, or even overbalanced, by his concern about getting good quality or the "right" product. The questions now become: "When might we expect maximum 'conflict' in making such a choice?" And "When might we expect a significant number of high choices?"

Some armchair analysis may be useful at this point. Clearly, a whole host of variables may be relevant here. For example, the price level of the product we are talking about may certainly be related to the difficulty and direction of choice. A consumer may feel quite differently about purchasing a higher-priced can of peas than about purchasing a higher-priced television set. The frequency with which he purchases the product may influence his thinking. A loaf of bread may be treated quite differently from a can of spice, for example. The consumer himself and his role in society may be relevant. Evidence is already available that indicates differences in price consciousness within different social strata of our society. Some groups may, for example, be expected to choose higher prices more frequently because they are more concerned with doing the socially "right" things—things that will guarantee acceptance either by their peers or by the members of the next higher stratum. Finally, the products themselves may, for many reasons, carry with them some stereotyped notions about their own quality. It is possible, for example, that consumers may feel that certain products are all alike from brand to brand, while other products are really different from one another.

An Experimental Method

Over the past few months we have conducted some small-scale experiments in this area, with hypothetical choice situation. For these experiments we

selected only products in the 50-cent to $1.00 price range. We concerned ourselves only with two variables: the size of the price difference and consumers' stereotypes about similarities or differences among different brands of each of the products.

To get some products with different stereotypes we used a list of fifteen household products in the price range—products like aspirin tablets, bacon, hand towels, icecream, bobby pins, deodorants, floor wax, etc. Unsystematically and nonrandomly we simply asked a number of friends and acquaintances to place five of the products in each of these three categories: (1) all brands pretty much alike, (2) big quality differences from brand to brand, (3) in between.

The results were consistent enough to give us four products to work with. Cooking sherry and moth flakes were placed in the "all-alike" category by most of our subjects.[46] Razor blades and floor wax took top honors in the "considerable-difference" category.

We then took these four products—the two in which quality differences were seen as minimal and the two in which quality differences were seen as maximal—and set up some hypothetical choice situations for a new population of sixty (plus) subjects. Thirty of them were Air Force officers, majors, and lieutenant-colonels; the remainder were male and female graduate students, most of them in their thirties or forties.

Here are the major methodological steps in these experiments: Subjects were asked to imagine themselves in a situation in which they had to choose between two brands of each of our four products. Their only differential information was price. For example, male subjects were told:

Your wife sends you out to the local supermarket to buy a pint of floor wax. She specifies a brand, but when you get to the store you find that they are all out of that brand. You know your wife needs the wax quickly, and there is no other convenient store in which to buy it, so you must choose between the brands that are carried. The store does have two brands. You have heard of both brands, but you know nothing about either one.

When I give you the signal, will you please turn the page where you will find the prices of the brands? Circle the choice that you would make.

Roughly equal numbers of subjects were presented with these pairs of prices to choose from:

Brand A at $0.68 versus brand B at $0.72
Brand A at $0.66 versus brand B at $0.74
Brand A at $0.62 versus brand B at $0.78
Brand A at $0.52 versus brand B at $0.88

Subjects were also asked, after they had made their choices, to check one of these two statements:

(1) I am satisfied with the choice I made.
(2) I feel doubtful about the choice I made.

A kind of aborted Latin-square design was used in these experiments.

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We used four products; four sets of prices for each product. Each group of subjects was subdivided into four groups. Each member of each sub-group was given four choice situations, one for each product, one pair of prices per product. Thus a subject in group A might have received razor blades at 68 versus 72 cents; then floor wax at 62 versus 78 cents; then cooking sherry at 52 versus 88 cents; and moth flakes at 68 versus 74 cents. Subjects in other sub-groups received the same four products, but with prices shifted. Thus we ended up with about equal numbers of subjects for each product at each pair of prices. After all choices had been made, the subjects were asked to rank the four products—cooking sherry, floor wax, moth flakes and razor blades—in terms of the quality differences they believed to exist among brands.

Some Preliminary Results

Here is a brief summary of our results :

1. These sixty subjects differentiated among these four products in the same order as our preliminary subjects had done. They ranked floor wax and razor blades as large "quality-difference" products, in that order; cooking sherry ranked a very poor third, and moth flakes a definite fourth.

2. When faced with choices between two brands of floor wax, 57 per cent of our subjects selected the higher-priced brand (all pairs of prices are pooled here); 30 per cent of the subjects chose the higher-priced razor blades; 24 per cent the higher-priced moth flakes; and 21 per cent the higher-priced cooking sherry. The difference between the extremes is significant at better than the 1 per cent level.

Let's shift gears a little and consider for each subject the product which he ranked No. 1, no matter what particular product it may be, and the product he ranked No. 2, and so on. For products ranked No. 1, 57 per cent of the subjects chose the higher-priced item; for products ranked No. 2, 46 per cent chose the higher-priced item; for products ranked No. 3, 15 per cent; and for products ranked No. 4, 2 per cent.

3. The idea that "psychological conflict" increases with the subject's belief in quality difference is also supported, if the "doubt" item can be taken as an indication of conflict. For cooking sherry, 10 per cent of the subjects indicated doubt about the choice they had made; moth flakes, 12 per cent; but for the large quality-difference items the frequency of doubtful choices rises : 20 per cent of the subjects were doubtful about their razor-blade choices, and 38 per cent were doubtful about their floor-wax decisions. Incidentally, subjects tend, if anything, to be more doubtful about their low choices than about their high choices; that is, the percentage of doubtfuls which end up as low choices is greater than the percentage of doubtfuls which end up high.

4. Another finding may be worth mentioning. Some relationship may exist between the tendency to choose high or low and the size of the price differential. At first guess, one might think that the direction of such a relationship

would be inverse—that is, as the price difference increased, subjects would tend more and more to choose the lower-priced product. On the other hand, an analysis of the situation in psychological-conflict terms would probably lead to a more complicated conclusion. Unfortunately, neither the common-sense direction nor the conflict-analysis direction seems at this point to hold much water. What actually happened at each price difference is shown in Table 1.

"Product Rank for Quality" in Table 1 is each subject's own rank. So, for example, when choosing between a 68-and a 72-cent brand for their No. 1 product, 64 per cent of our subjects indicated they would select the 72-cent brand.

The vertical differences in Table 1 are clear. However, the only statistically significant horizontal difference is that between the extremes for product rank 3. In that case, one might interpret the results to mean that as the price differences increase, subjects feel that the probability of quality differences also increases.

TABLE 1

PERCENTAGE OF SUBJECTS CHOOSING HIGHER-PRICED BRAND

Product Rank for Quality	*Price Differences (Cents)* 68-72	66-74	62-78	52-88
1 (Big difference).....	64	50	61	50
2	47	44	54	41
3	6	6	10	35
4 (All alike).....	0	0	7	0

Summary and Some Implications

The results of our experiments are not startling. Our particular subjects, in these particular hypothetical choice situations, simply indicated that they would often choose the higher-priced of two alternative brands when their only differential information was price. They are consistent in their beliefs that different brands of certain products are "all alike," while different brands of certain other products are "different." They are more ready to make the higher-priced choice for products among which they believe brands are different than for products that they believe are all alike. They may, in fact, be more frequently ready to choose the higher-priced brand for some products when the price difference is large than when it is small.

These findings suggest that demand curves may not invariably be negatively sloped, that price itself may have more than one meaning to a consumer, and that a higher price may sometimes increase, rather than decrease, his readiness to buy. Such behavior may be odd and "uneconomic," but perhaps not unrealistic.

Several interesting possibilities seem to arise out of these tentative findings. It may be, for example, that the economists' traditional "inferior good" (diamonds are the usual textbook example) is not so rare as we may believe. One might guess that a high price may be an attracting instead of a repelling force for particular brands of many different kinds of items. If the relevant characteristics of the items or of consumer groups can be systematically identified and interrelated, then perhaps one might have the beginnings of a framework from which to set and predict the effects of a particular pricing policy. Moreover, if the kinds of behavior found in these experiments occur with any frequency in "real" life, then any satisfactorily predictive theory of pricing would have to account for them. In any case, the area seems deserving of further exploration.

31 / Retail Strategy and the Classification of Consumer Goods

LOUIS P. BUCKLIN

The classification of consumer goods into shopping, convenience and specialty goods has long been used in marketing to help identify what strategies a manufacturer should use. Inevitably there has been considerable controversy over this classification system. In this article the author attempts to clarify a number of the issues which exist regarding the classification as well as to extend the concept to the retailer.

When Melvin T. Copeland published his famous discussion of the classification of consumer goods, shopping, convenience and specialty goods, his intent was clearly to create a guide for the development of marketing strategies by manufacturers.[1] Although his discussion involved retailers and retailing, his purpose was to show how consumer buying habits affected the type of channel of distribution and promotional strategy that a manufacturer should adopt. Despite the controversy which still surrounds his classification, his success in creating such a guide may be judged by the fact that through the years few marketing texts have failed to make use of his ideas.

The purpose of this article is to attempt to clarify some of the issues that exist with respect to the classification, and to extend the concept to include the retailer and the study of retail strategy.

CONTROVERSY OVER THE CLASSIFICATION SYSTEM

The starting point for the discussion lies with the definitions adopted by the American Marketing Association's Committee on Definitions for the classification system in 1948.[2] These are:

Conv*enience Goods*: Those consumers' goods which the customer purchases frequently, immediately, and with the minimum of effort.

[1] Melvin T. Copeland, "Relation of Consumers' Buying Habits to Marketing Methods," *Harvard Business Review*, Vol. 1 (April, 1923), pp. 282-289.

[2] Definitions Committee, American Marketing Association, "Report of the Definitions Committee," *Journal of Marketing*, Vol. 13 (October, 1948), pp. 202-217, at p. 206, p. 215.

SOURCE : From *Journal of Marketing*, national quarterly publication of the American Marketing Association, vol. 27, January, 1963, pp. 51-56. Louis P. Bucklin : Assistant Professor of Business Administration, University of California Berkeley.

Shopping Goods: Those consumers' goods which the customer in the process of selection and purchase characteristically compares on such bases as suitability, quality, price and style.
Specialty Goods: Those consumers' goods on which a significant group of buyers are habitually willing to make a special purchasing effort.

This set of definitions was retained in virtually the same form by the Committee on Definitions in its latest publication.[3]

Opposing these accepted definitions stands a critique by Richard H. Holton.[4] Finding the Committee's definitions too imprecise to be able to measure consumer buying behavior, he suggested that the following definitions not only would represent the essence of Copeland's original idea, but be operationally more useful as well.

Convenience Goods: Those goods for which the consumer regards the probable gain from making price and quality comparisons as small compared to the cost of making such comparisons.
Shopping Goods: Those goods for which the consumer regards the probable gain from making price and quality comparisons as large relative to the cost of making such comparisons.
Specialty Goods: Those convenience or shopping goods which have such a limited market as to require the consumer to make a special effort to purchase them.

Holton's definitions have particular merit because they make explicit the underlying conditions that control the extent of a consumer's shopping activities. They show that a consumer's buying behavior will be determined not only by the strength of his desire to secure some goods, but by his perception of the cost of shopping to obtain it. In other words, the consumer continues to shop *for all goods* so long as he feels that the additional satisfactions from further comparisons are at least equal to the cost of making the additional effort. The distinction between shopping and convenience goods lies principally in the degree of satisfaction to be secured from further comparisons.

The Specialty Goods Issue

While Holton's conceptualization makes an important contribution, he has sacrificed some of the richness of Copeland's original ideas. This is essentially David J. Luck's complaint in a criticism of Holton's proposal.[5] Luck objected to the abandonment of the *willingness* of consumers to make a special effort to buy as the rationale for the concept of specialty goods. He regarded

[3] Definitions Committee, American Marketing Association, *Marketing Definitions,* (Chicago : American Marketing Association, 1960), pp. 11, 21, 22.
[4] Richard H. Holton, "The Distinction Between Convenience Goods, Shopping Goods, and Specialty Goods," *Journal of Marketing,* Vol. 23 (July, 1958), pp. 53-56.
[5] David J. Luck, "On the Nature of Specialty Goods," *Journal of Marketing,* Vol. 24 (July, 1959), pp. 61-64.

this type of consumer behavior as based upon unique consumer attitudes toward certain goods and not the density of distribution of those goods. Holton, in a reply, rejected Luck's point; he remained convinced that the real meaning of specialty goods could be derived from his convenience goods, shopping goods continuum, and market conditions.[6]

The root of the matter appears to be that insufficient attention has been paid to the fact that the consumer, once embarked upon some buying expedition, may have only one of two possible objectives in mind. A discussion of this aspect of consumer behavior will make possible a closer synthesis of Holton's contribution with the more traditional point of view.

A Forgotten Idea

The basis for this discussion is afforded by certain statements, which the marketing profession has largely ignored over the years, in Copeland's original presentation of his ideas. These have regard to the extent of the consumer's awareness of the precise nature of the item he wishes to buy, before he starts his shopping trip. Copeland stated that the consumer, in both the cases of convenience goods and specialty goods, has full knowledge of the particular good, or its acceptable substitutes, that he will buy before he commences his buying trip. The consumer, however, lacks this knowledge in the case of a shopping good.[7] This means that the buying trip must not only serve the objective of purchasing the good, but must enable the consumer to discover which item he wants to buy.

The behavior of the consumer during any shopping expedition may, as a result, be regarded as heavily dependent upon the state of his decision as to what he wants to buy. If the consumer knows precisely what he wants, he needs only to undertake communication activities sufficient to take title to the desired product. He may also undertake ancillary physical activities involving the handling of the product and delivery. If the consumer is uncertain as to what he wants to buy, then an additional activity will have to be performed. This involves the work of making comparisons between possible alternative purchases, or simply search.

There would be little point, with respect to the problem of classifying consumer goods, in distinguishing between the activity of search and that of making a commitment to buy, if a consumer always performed both before purchasing a good. The crucial point is that he does not. While most of the items that a consumer buys have probably been subjected to comparison at some point in his life, he does not make a search before each purchase. Instead, a past solution to the need is frequently remembered and, if satis-

[6] Richard H. Holton, "What is Really Meant by 'Specialty' Goods?" *Journal of Marketing*, Vol. 24 (July, 1959), pp. 64-67.

[7] Melvin T. Copeland, same reference as footnote 1, pp. 283-284.

factory, is implemented.[8] Use of these past decisions for many products quickly moves the consumer past any perceived necessity of undertaking new comparisons and leaves only the task of exchange to be discharged.

REDEFINITION OF THE SYSTEM

Use of this concept of problem solving permits one to classify consumer buying efforts into two broad categories which may be called shopping and nonshopping goods.

Shopping Goods

Shopping goods are those for which the consumer *regularly* formulates a new solution to his need each time it is aroused. They are goods whose suitability is determined through search before the consumer commits himself to each purchase.

The motivation behind this behavior stems from circumstances which tend to perpetuate a lack of complete consumer knowledge about the nature of the product that he would like to buy.[9] Frequent changes in price, style, or product technology cause consumer information to become obsolete. The greater the time lapse between purchases, the more obsolete will his information be. The consumer's needs are also subject to change, or he may seek variety in his purchases as an actual goal. These forces will tend to make past information inappropriate. New search, due to forces internal and external to the consumer, is continuously required for products with purchase determinants which the consumer regards as both important and subject to change.[10]

The number of comparisons that the consumer will make in purchasing a shopping good may be determined by use of Holton's hypothesis on effort. The consumer, in other words, will undertake search for a product until the perceived value to be secured through additional comparisons is less than the estimated cost of making those comparisons. Thus, shopping effort will vary according to the intensity of the desire of the consumer to find the right product, the type of product and the availability of retail facilities. Whether the consumer searches diligently, superficially, or even buys at the first opportunity, however, does not alter the shopping nature of the product.

[8] George Katona, *Psychological Analysis of Economic Behavior* (New York : McGraw-Hill Book Co., Inc. 1951), p. 47.

[9] Same reference, pp. 67-68.

[10] George Katona and Eva Mueller, "A Study of Purchase Decisions in Consumer Behavior," Lincoln Clark, editor, *Consumer Behavior* (New York : University Press, 1954), pp. 30-87.

Nonshopping Goods

Turning now to nonshopping goods, one may define these as products for which the consumer is both willing and able to use stored solutions to the problem of finding a product to answer a need. From the remarks on shopping goods it may be generalized that nonshopping goods have purchase determinants which do not change, or which are perceived as changing inconsequentially, between purchases.[11] The consumer, for example, may assume that price for some product never changes or that price is unimportant. It may be unimportant because either the price is low, or the consumer is very wealthy.

Nonshopping goods may be divided into convenience and specialty goods by means of the concept of a preference map. Bayton introduces this concept as the means to show how the consumer stores information about products.[12] It is a rough ranking of the relative desirability of the different kinds of products that the consumer sees as possible satisfiers for his needs. For present purposes, two basic types of preference maps may be envisaged. One type ranks all known product alternatives equally in terms of desirability. The other ranks one particular product as so superior to all others that the consumer, in effect, believes this product is the only answer to his need.

Distinguishing the Specialty Good

This distinction in preference maps creates the basis for discriminating between a convenience good and a specialty good. Clearly, where the consumer is indifferent to the precise item among a number of substitutes which he could buy, he will purchase the most accessible one and look no further. This is a convenience good. On the other hand, where the consumer recognizes only one brand of a product as capable of satisfying his needs, he will be willing to bypass more readily accessible substitutes in order to secure the wanted item. This is a specialty good.

However, most nonshopping goods will probably fall in between these two polar extremes. Preference maps will exist where the differences between the relative desirability of substitutes may range from the slim to the well marked. in order to distinguish between convenience goods and specialty goods in these cases, Holton's hypothesis regarding consumer effort may be employed again. A convenience good, in these terms becomes one for which the consumer has such little preference among his perceived choices that he buys the item which is most readily available. A specialty good is one for which consumer preference is so strong that he bypasses, or would be willing to bypass, the purchase of more accessible substitutes in order to secure his most wanted item.

[11] Katona, same reference as footnote 8, p. 68.

[12] James A. Bayton, "Motivation, Cognition, Learning—Basic Factors in Consumer Behavior," *Journal of Marketing*, Vol. 22 (January, 1958), pp. 282-289, at p. 287.

It should be noted that this decision on the part of the consumer as to how much effort he should expend takes place under somewhat different conditions than the one for shopping goods. In the nonshopping good instance the consumer has a reasonably good estimate of the additional value to be achieved by purchasing his preferred item. The estimate of the additional cost required to make this purchase may also be made fairly accurately. Consequently, the consumer will be in a much better position to justify the expenditure of additional effort here than in the case of shopping goods where much uncertainty must exist with regard to both of these factors.

The New Classification

The classification of consumer goods that results from the analysis is as follows :

> *Convenience Goods*: Those goods for which the consumer, before his need arises, possesses a preference map that indicates a willingness to purchase any of a number of known substitutes rather than to make the additional effort required to buy a particular item.
>
> *Shopping Goods*: Those goods for which the consumer has not developed a complete preference map before the need arises, requiring him to undertake search to construct such a map before purchase.
> *Specialty Goods*: Those goods for which the consumer, before his need arises, possesses a preference map that indicates a willingness to expend the additional effort required to purchase the most preferred item rather than to buy a more readily accessible substitute.

EXTENSION TO RETAILING

The classification of the goods concept developed above may now be extended to retailing. As the concept now stands, it is derived from consumer attitudes or motives toward a *product.* These attitudes, or product motives, are based upon the consumer's interpretation of a product's styling, special features, quality and social status of its brand name, if any. Occasionally the price may also be closely associated with the product by the consumer.

Classification of Patronage Motives

The extension of the concept to retailing may be made through the notion of patronage motives, a term long used in marketing. Patronage motives are derived from consumer attitudes concerning the retail establishment. They are related to factors which the consumer is likely to regard as controlled by the retailer. These will include assortment, credit, service, guarantee, shopping ease and enjoyment, and usually price. Patronage motives, however, have never been systematically categorized. It is proposed that the procedure developed above to discriminate among product motives be used to classify consumer buying motives with respect to retail stores as well.

This will provide the basis for the consideration of retail marketing strategy and will aid in clearing up certain ambiguities that would otherwise exist if consumer buying motives were solely classified by product factors. These ambiguities appear, for example, when the consumer has a strong affinity for some particular brand of a product, but little interest in where he buys it. The manufacturer of the product, as a result, would be correct in defining the product as a specialty item if the consumer's preferences were so strong as to cause him to eschew more readily available substitutes. The retailer may regard it as a convenience good, however, since the consumer will make no special effort to purchase the good from any particular store. This problem is clearly avoided by separately classifying product and patronage motives.

The categorization of patronage motives by the above procedure results in the following three definitions. These are :

> *Convenience Stores*: Those stores for which the consumer, before his need for some product arises, possesses a preference map that indicates a willingness to buy from the most accessible store.
> *Shopping Stores*: Those stores for which the consumer has not developed a complete preference map relative to the product he wishes to buy, requiring him to undertake a search to construct such a map before purchase.
> *Specialty Stores*: Those stores for which the consumer, before his need for some product arises, possesses a preference map that indicates a willingness to buy the item from a particular establishment even though it may not be the most accessible.

The Product-patronage Matrix

Although this basis will now afford the retailer a means to consider alternative strategies, a finer classification system may be obtained by relating consumer product motives to consumer patronage motives. By cross-classifying each product motive with each patronage motive, one creates a three-by-three matrix, representing nine possible types of consumer buying behavior. Each of the nine cells in the matrix may be described as follows :

1. *Convenience Store—Convenience Good*: The consumer, represented by this category, prefers to buy the most readily available brand of product at the most accessible store.
2. *Convenience Store—Shopping Good*: The consumer selects his purchase from among the assortment carried by the most accessible store.
3. *Convenience Store—Specialty Good*: The consumer purchases his favored brand from the most accessible store which has the item in stock.
4. *Shopping Store—Convenience Good*: The consumer is indifferent to the brand of product he buys, but shops among different stores in order to secure better retail service and/or lower retail price.
5. *Shopping Store—Shopping Good*: The consumer makes comparisons among both retail controlled factors and factors associated with the product (brand).

6. *Shopping Store—Specialty Good*: The consumer has a strong preference with respect to the brand of the product, but shops among a number of stores in order to secure the best retail service and/or price for this brand.

7. *Specialty Store—Convenience Good*: The consumer prefers to trade at a specific store, but is indifferent to the brand of product purchased.

8. *Specialty Store—Shopping Good*: The consumer prefers to trade at a certain store, but is uncertain as to which product he wishes to buy and examines the store's assortment for the best purchase.

9. *Specialty Store—Specialty Good*: The consumer has both a preference for a particular store and a specific brand.

Conceivably, each of these nine types of behavior might characterize the buying patterns of some consumers for a given product. It seems more likely, however, that the behavior of consumers toward a product could be represented by only three or four of the categories. The remaining cells would be empty, indicating that no consumers bought the product by these methods. Different cells, of course, would be empty for different products.

THE FORMATION OF RETAIL STRATEGY

The extended classification system developed above clearly provides additional information important to the manufacturer in the planning of his marketing strategy. Of principal interest here, however, is the means by which the retailer might use the classification system in planning his marketing strategy.

Three Basic Steps

The procedure involves three steps. The first is the classification of the retailer's potential customers for some product by market segment, using the nine categories in the consumer buying habit matrix to define the principal

TABLE 1 PROPORTION OF POTENTIAL DRESS MARKET IN EACH MATRIX CELL

Buying habit	*% of market*
Convenience store—convenience good	0
Convenience store—shopping good	3
Convenience store—specialty good	20
Shopping store—convenience good	0
Shopping store—shopping good	35
Shopping store—specialty good	2
Specialty store—convenience good	0
Specialty store—shopping good	25
Specialty store—specialty good	15
	100

segments. The second requires the retailer to determine the nature of the marketing strategies necessary to appeal to each market segment. The final step is the retailer's selection of the market segment, and the strategy associated with it, to which he will sell. A simplified, hypothetical example may help to clarify this process.

A former buyer of dresses for a department store decided to open her own dress shop. She rented a small store in the downtown area of a city of 50,000, ten miles distant from a metropolitan center of several hundred thousand population. In contemplating her marketing strategy, she was certain that the different incomes, educational backgrounds, and tastes of the potential customers in her city meant that various groups of these women were using sharply different buying methods for dresses. Her initial problem was to determine, by use of the consumer buying habit matrix, what proportion of her potential market bought dresses in what manner.

By drawing on her own experience, discussions with other retailers in the area, census and other market data, the former buyer estimated that her potential market was divided, according to the matrix, in the following proportions.

This analysis revealed four market segments that she believed were worth further consideration. (In an actual situation, each of these four should be further divided into submarket segments according to other possible factors such as age, income, dress size required, location of residence, etc.). Her next task was to determine the type of marketing mix which would most effectively appeal to each of these segments. The information for these decisions was derived from the characteristics of consumer behavior associated with each of the defined segments. The following is a brief description of her assessment of how elements of the marketing mix ought to be weighted in order to formulate a strategy for each segment.

A Strategy for Each Segment

To appeal to the convenience store-specialty good segment she felt that the two most important elements in the mix should be a highly accessible location and a selection of widely-accepted brand merchandise. Of somewhat lesser importance, she found, were depth of assortment, personal selling, and price. Minimal emphasis should be given to store promotion and facilities.

She reasoned that the shopping store-shopping good requires a good central location, emphasis on price, and a broad assortment. She ranked store promotion, accepted brand names and personal selling as secondary. Store facilities would, once again, receive minor emphasis.

The specialty store-shopping good market would, she believed, have to be catered to with an exceptionally strong assortment, a high level of personal selling and more elaborate store facilities. Less emphasis would be needed

upon prominent brand names, store promotions and price. Location was of minor importance.

The specialty store-specialty good category, she thought, would require a marketing mix heavily emphasizing personal selling and highly elaborate store facilities and services. She also felt that prominent brand names would be required, but that these would probably have to include the top names in fashion, including labels from Paris. Depth of assortment would be secondary, while least emphasis would be placed upon store promotion, price and location.

Evaluation of Alternatives

The final step in the analysis required the former dress buyer to assess her abilities to implement any one of these strategies, given the degree of competition existing in each segment. Her considerations were as follows: With regard to the specialty store-specialty good market, she was unprepared to make the investment in store facilities and services that she felt would be necessary. She also thought, since a considerable period of time would probably be required for her to build up the necessary reputation, that this strategy involved substantial risk. Lastly, she believed that her experience in buying high fashion was somewhat limited and that trips to European fashion centers would prove burdensome.

She also doubted her ability to cater to the specialty store-shopping good market, principally because she knew that her store would not be large enough to carry the necessary assortment depth. She felt that this same factor would limit her in attempting to sell to the shopping store-shopping good market as well. Despite the presence of the large market in this segment, she believed that she would not be able to create sufficient volume in her proposed quarters to enable her to compete effectively with the local department store and several large department stores in the neighbouring city.

The former buyer believed her best opportunity was in selling to the convenience store-specialty good segment. While there were already two other stores in her city which were serving this segment, she believed that a number of important brands were still not represented. Her past contacts with resources led her to believe that she would stand an excellent chance of securing a number of these lines. By stocking these brands, she thought that she could capture a considerable number of local customers who currently were purchasing them in the large city. In this way, she believed, she would avoid the full force of local competition.

Decision

The conclusion of the former buyer to use her store to appeal to the convenience store-specialty good segment represents the culmination to the process of analysis suggested here. It shows how the use of the three-by-three matrix of consumer buying habits may aid the retailer in developing his marketing

strategy. It is a device which can isolate the important market segments. It provides further help in enabling the retailer to associate the various types of consumer behavior with those elements of the marketing mix to which they are sensitive. Finally, the analysis forces the retailer to assess the probability of his success in attempting to use the necessary strategy in order to sell each possible market.

32 / *Factors Governing the Development of Marketing Channels*

WROE ALDERSON

Any marketing system is characterized by the extensive use of marketing channels. The author of this article provides a general explanation of the origin of marketing channels and their dynamic nature. He also raises questions about that public policy which relates to productivity in marketing and the hazards of monopoly.

Everyone is affected by marketing channels, but few have had the occasion to try to understand them. Even the marketing specialist is likely to be limited to his own product field in his detailed knowledge of channels. It is true that there have been public investigations of channels from time to time, often prompted by a wave of indignation against the "middleman." Legislators and public officials are called upon to make decisions affecting channels without an adequate background concerning their place in the economy. Channels in one field are declared to consist of too many stages, and the conclusion is drawn that they are necessarily inefficient. In another field it is asserted that channels are too highly integrated, with obvious implications as to the growth of monopoly.

This book is an attempt to describe the marketing channels in a number of fields and to show how they happened to assume these diversified forms. Other chapters will attempt to point up some of the implications of this material for business management and for public policy. The purpose of this opening chapter is to discuss some of the underlying factors which are manifested in the development of channels generally. The first section of the chapter will show how intermediaries arise in the process of exchange and will explain how the independent but co-ordinated agencies known as marketing channels contribute to economic efficiency. The second section will assess the forces which bring about change and adjustment in the structure of marketing channels. Finally, there are questions of public policy related to productivity in marketing and the hazards of monopoly. The third and fourth sections of this chapter present some salient facts about marketing channels in relation to these issues.

SOURCE : From Richard M. Clewett (ed.), *Marketing Channels* (Homewood, Ill. : Richard D. Irwin, Inc., 1954), pp. 5-34. Wroe Alderson : Alderson & Sessions, Inc.

THE ORIGIN OF MARKETING CHANNELS

Human culture is characterized by the existence of an assortment of goods available to the individual for his personal use or similarly available to a family or household. This assortment may include articles of clothing or adornment, stocks of foods or fuel, kitchen utensils, weapons and tools. In a sense every item in the assortment may be regarded as a tool or instrument designed for specific uses. The significance of the assortment of goods in the possession of the individual is that it provides the means or capacity for the various kinds of activities in which he may expect to engage.

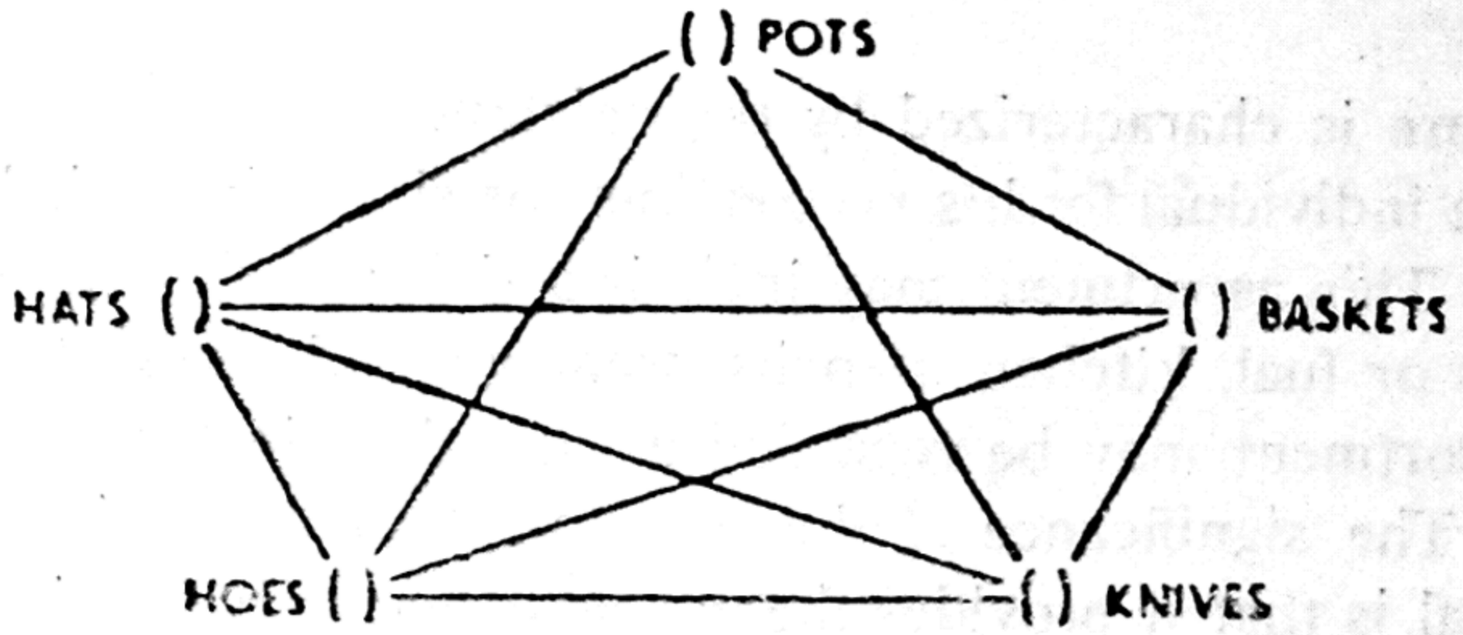
It is rational for the individual to be prepared for all of the activities which are normal for his culture or for his station in life. Thus if any item in his basic assortment should be about to be used up or worn out, he will be interested in replacing it. As his status or other factors in his situation change, he may need to add new items to his assortment. An example of a crucial change of status which may require additional items is that from bachelorhood to married life. The point is that in either primitive or advanced cultures the individual and the household maintain the power to act by replenishing or extending the assortment of goods in their possession.

In a primitive culture most of the goods used within a household are produced by the members of the household. The term "produce" should be interpreted broadly enough here to include not only fabrication but the collection of natural objects not already in the possession of someone else. At an early stage in the development of economic activities it is found that some of the needs of a household or a tribe can be met more efficiently by exchange than by production. One family might be more skilful than another in making pots, while the second might be more skilful in making baskets. The first might be able to make two pots and the second two baskets faster than either could make one of each. If both families produce a surplus of the article they can make best and then they engage in exchange, both may get better quality goods at lower cost.

Exchange through Intermediaries

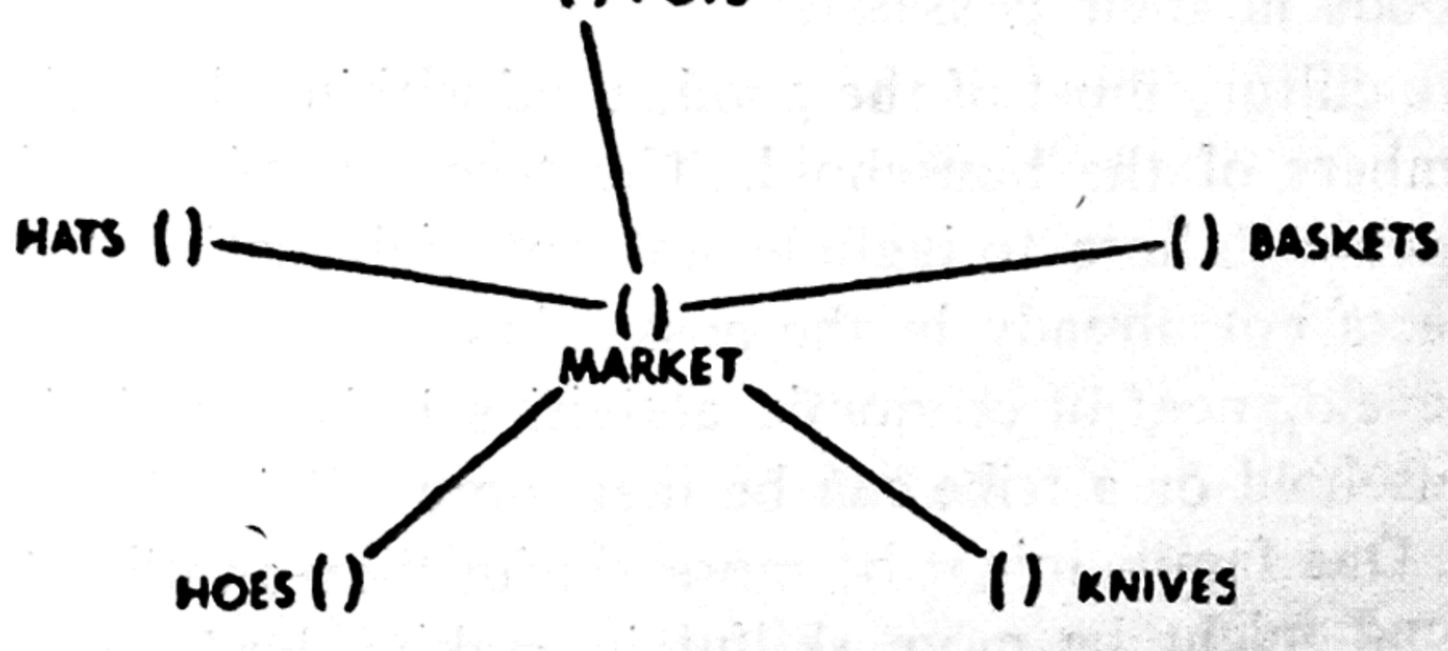
This is a very elementary example of the advantages of specialization in production and of the way that specialization is promoted through exchange. The purpose here is to show why exchange takes place through intermediaries and to consider the additional advantages which are gained through the development of middlemen and their alignment into marketing channels. To that end we may picture a slightly more complex exchange economy consisting of five households. Each is producing a surplus of some article used by all five. These articles might be pots, baskets, knives, hoes and hats. In each case a surplus of four units is produced, and these units are then exchanged with the other households to obtain needed articles. Ten separate exchanges would be required, as shown in Chart 1—1.

CHART 1–1



Now suppose that this pattern of decentralized exchange is replaced by a central market. All come together at an appointed place on the second Thursday in April, each bringing his surplus. This may be a time when they are coming together anyway to celebrate the spring festival of their rain god. The increased convenience with which the exchange is accomplished is indicated by Chart 1—2.

CHART 1–2



Only five trips are required instead of ten. Each participant has his surplus in readiness for exchange. This may not always be true in the case of decentralized exchanges. When the pot-maker visits the basket-maker to offer his wares, there may not be any finished baskets on hand and ready for exchange. In a primitive culture the goods and the parties to the transaction must be brought together at the same time and place in order for exchange to occur. The example given shows how much more easily this is accomplished through a central market. Here in its most elementary form is the creation of time and place utility, a concept which is generally associated with marketing. Time and place utility have held little interest for the general economist but deserve a more intensive analysis from the viewpoint of the marketing economist.

Centralized Exchange and Possession Utility

The next step in the evolution of exchange is for the market to be operated by an individual who may be called a dealer. Each of the five producers now

engage in exchange with the dealer rather than with each other. The basket-maker, for example, trades his surplus to the dealer and receives back the items he requires to replenish his assortment. He may acquire a pot, a knife, a hoe, and a hat in a single transaction rather than through four separate transactions with the respective producers of these articles. In this way he saves time either to make more baskets or to devote to other pursuits. Possibly he will make five baskets instead of four, and the dealer will retain one basket in payment for his services.

Our simplified model of exchange now embraces what has been called "possession utility" as well as "time and place utility." Effort is involved in the act of exchange itself. The dealer has created possession utility by bringing about the transfer of goods from producer to consumer with less effort than would be involved in direct trading. *Economic analysis of the factors in price equilibrium generally rests on the assumption that exchange transactions are costless. Marketing analysis directed toward an understanding of trade channels must begin with a recognition of the costs involved in the creation of time, place and possession utility.*

The saving might not be very important in the example given of a primitive economy consisting of only five producers. Cutting the number of transactions in half might not make a perceptible increase in productivity, and trading with each other might be valued in itself as a congenial form of social intercourse. The number of transactions necessary to carry out decentralized exchange is $\frac{n(n-1)}{2}$ where n is the number of producers and each makes only one article. Since the number of transactions required is only n if the central market is operated by a dealer, the ratio of advantage is $\frac{n-1}{2}$. Thus if the number of producers is raised from 5 to 25 the ratio of advantage in favor of an intermediary increases from 2 to 12. With 125 producers the ratio of advantage is 62. The figure 125 is a tiny fraction of the number of articles which must be produced to maintain satisfactory assortments in the hands of all of the consuming units in our complex modern culture. Even at this preliminary level of analysis, the ratio of advantage in favor of intermediary exchange is overwhelming. Exchange arises out of considerations of efficiency in production. Exchange through intermediaries arises out of considerations of efficiency in exchange itself.

Creation of Time and Place Utility

Intermediaries can increase the efficiency of exchange even when the producers and consumers under consideration are located in the same compact community. The advantages are greater when large distances intervene. Place utility takes on new aspects when the pot-maker and the basket-maker are hundreds or even thousands of miles apart. When buyer and seller are so far apart, one or the other must take the initiative in closing the gap. One

of them must call on the other if they are to negotiate face to face. One side or the other must assume the cost of moving the goods. Transportation and communication systems arise to bridge the distance. The railroads and trucking companies are in effect new types of specialized intermediaries serving buyer and seller more cheaply than they could serve themselves. It was no less an authority than Alfred Marshall who said that economic progress consists largely in finding better methods for marketing at a distance.[1] The number of intervening marketing agencies tends to go up as distance increases. Many eastern companies who sell directly to wholesalers in other parts of the country sell through manufacturers' agencies on the Pacific Coast. This type of arrangement was even more common in the past but has been dropped in some instances as communication with the Pacific region has improved. Distance, for the present purpose, is not to be measured in miles but in terms of the time and cost involved in communication and transportation. In this sense there are points 300 miles inland in China which are further away from Shanghai than is San Francisco. Tariffs and the formalities of customs clearance are also a form of distance. As a result, specialized import and export firms commonly enter into foreign trade in addition to other types of intermediaries.

Production and consumption may also be separated widely in time. The wheat crop which is harvested in June is destined to be consumed as bread or other foodstuffs over a period of a year or more thereafter. To bridge this gap in time is to create utility for both producer and consumer. One wishes to be paid as soon as the crop is harvested. The other wants bread as needed without having to maintain a stock of wheat in the meantime. Specialized intermediaries such as grain elevators and warehouses enter the picture and help to create time utility through storage. Banks, insurance companies and other specialized institutions help to minimize the costs and the risks of owning goods in the period between production and consumption. Retailers and wholesalers create time utility simply by holding stocks of goods available to be drawn upon by buyers. Without these facilities the only course open to the buyer would be to place an order with the producer and wait until the article could be produced and delivered. To be able to obtain the article at once instead of waiting is the essence of time utility. Another way of creating time utility is by selling on credit either to consumers or to other types of buyers. Through the instalment purchase of an automobile, for example, the consumer is able to begin enjoying the use of the car long before it would be possible for him to pay for it in full. An automobile used partly for business, or other items entering into a further stage of production, may help to raise the money needed for purchasing the product.

[1] Alfred Marshall, *Principles of Economics* (8th ed.; London : Macmillan & Co., Ltd., 1920), p. 397.

Technological distance and the Discrepancy of Assortments

Producer and consumer are often a long way apart not only in time and space but in other ways. A product has a very different meaning for its producer and for the ultimate consumer buyer. For the consumer it has the possibility of contributing to what might be called the potency of his assortment. That is the range of capacity for future action provided by all of the goods in his possession. The consumer judges the product in relation to anticipated patterns of behavior and considers how it will fit in with other products he expects to use. If it is a mechanical refrigerator it must fit into the space available for it in his kitchen or pantry, and be equipped to utilize the supply of electricity or domestic gas. If it is a tie, the wearer does not want the color to clash with the colors of his other clothing. The specifications of the ideal product from the consumer viewpoint are determined by use requirements, including the requirement of not detracting from the value in use of other items already in the assortment.

The goods that a producer has for sale are the expression of his skills and resources. Ideal specifications from his viewpoint would be those which made most effective use of his plant capacity and of the available labor and raw materials. If he makes more than one product his stock of finished goods may be regarded as an assortment in the sense that it constitutes a supply with diverse characteristics. In some cases the separate items will be quite unrelated from the viewpoint of the uses they serve. They may have nothing in common except that they were produced from the same materials or by similar processes. Two items may be linked even more closely, one being a primary product and the other a by-product. In any case it is a wholly different thing for goods to be found together because of convenience in production as compared to an assortment of goods that are all complementary in use.

The most convenient or constructive association of goods changes at each stage in the flow of merchandise from producer to consumer. This fact has been generalized as the "discrepancy of assortments."[2] Goods are associated for transportation because of physical handling characteristics and common origin and destination. Goods are associated for storage in terms of the length of time they are to be stored and the conditions needed to preserve them. Between the producer's stock of finished goods and the assortment in the hands of the consumer there may be other stocks or assortments maintained by retailers and wholesalers. The composition of these intermediate stocks is determined by the requirements of the functions performed.

The discrepancy of assortments places severe limitations on vertical integration of marketing agencies. A retail grocer typically relies on

[2] David R. Craig and Werner K. Gabler, "The Competitive Struggle for Market Control," *Annals of the American Academy of Political and Social Science*, May, 1940.

different wholesale sources for meat, produce and packaged groceries. The requirements for storage, handling and other aspects of the wholesale function are quite different in these product fields. The retailer may provide the consumer who wants to buy peaches with a choice of fresh, canned, or frozen. Yet the routes by which the three items reached the grocery store would normally be quite different at both the wholesale and production levels. If it were not for the discrepancy of assortments, marketing channels might be more frequently integrated from top to bottom. Most fundamental of these discrepancies is that between producer stocks and consumer assortments. The product appears in a very different setting at these two levels and may be said to belong to the technology of production at one stage and the technology of use at the other. In addition to distance in time and space, marketing channels serve to bridge the technological gap (which may be regarded as a third form of distance between production and consumption).

Aspects of Sorting in Marketing

Fundamental to the adjustment effected through marketing channels are the four processes which may be bracketed under the name of "sorting". Most elementary of the forms of sorting is "sorting out." That means breaking down a heterogeneous supply into separate stocks which are relatively homogeneous. Sorting out is typified by the grading of agricultural products or by pulling out rejects in some manufacturing operations. A second form of sorting is accumulation, or bringing similar stocks together into a larger homogeneous supply. Accumulation of such stocks is essential to mass production and continuous manufacturing operations. Automatic machines are built with only a limited range of tolerance for variations in the materials processed.

The other two aspects of sorting are those which predominate in the distribution of finished manufactured goods. The first of these may be called "allocation." It consists in breaking a homogeneous supply down into smaller and smaller lots. This process in marketing is generally coincidental with geographical dispersal and successive changes in ownership. Allocation at the wholesale level has sometimes been called "breaking bulk." Goods received in carload lots are sold in case lots. A buyer in case lots in turn sells individual units.

The final aspects of sorting and the one which is most fundamental for this discussion may be called "assorting." That means building up assortments of items for use in association with each other. Both consumer buyers and industrial buyers enter the market for the purpose of building up assortments. Sellers undertake to facilitate assorting as carried on by buyers. Retail stores usually arrange goods in display according to categories of use rather than by producers or points of origin. Thus a consumer entering a department store can readily locate a department displaying all types of dresses. She does not have to go to a cotton department handling cotton

sheets, rugs, awnings and bandages in order to locate a cotton dress. Allocation and assorting go hand in hand in the channels of distribution. Purchase by the consumer is the common end point. It represents the completion of the process of allocation carried on by sellers and the culmination of economic activity in the replenishment or extension of the assortments in the hands of consumers.

Wholesaling is a manifestation of sorting as an essential marketing process. Goods are received from numerous suppliers and delivered to numerous customers. The essence of the operation is to transform the diversified supplies received into outgoing assortments on their way to customers. The justification for an independent wholesaling operation rests largely on the ratio of advantage growing out of this intermediate sorting. It has been pointed out elsewhere that this advantage goes up in relation to the product of the number of suppliers and the number of customers.[3]

The ultimate in intermediate sorting is seen in the freight classification yard. Trains of cars arrive over various routes. These trains are broken up and recombined according to the routes over which they will depart. Let us assume a simplified case in which 5 railroads come into the same terminal point. There are 5 production centers on each line or 25 in all. A train coming in over route *A* consists of 100 loaded cars. Twenty cars are picked up at each production center on route *A*, each destined for one of the centers on other lines. The same volume of freight originates on each of the other routes. Each of the production centers ships and receives 20 carloads of freight. Yet because of resorting at the central interchange the entire movement of 500 cars is completed by each of the 5 trains making a round trip over its own line. Note that there are no two cars for which both origin and destination coincide.

To summarize the case presented so far, intermediaries arise in the process of exchange because they can increase the efficiency of the process. The justification for the middleman rests on specialized skill in a variety of activities and particularly in various aspects of sorting. The principle of the discrepancy of assortments explains why the successive stages in marketing are so commonly operated as independent agencies. While economists assume for certain purposes that exchange is costless, transactions occupy time and utilize resources in the real world. Intermediary traders are said to create time, place and possession utility because transactions can be carried out at lower cost through them than through direct exchange. In our modern economy the distribution network makes possible specialized mass production on the one hand and the satisfaction of the differentiated tastes of consumers on the other.

[3] Wroe Alderson, "Scope and Function of Wholesaling in the United States," *Journal of Marketing*, September, 1949.

Routinization of Transactions

There is a final factor to be considered in explaining why a sequence of marketing agencies hangs together in such a way as to deserve the designation of channel. That is the fact that the cost of moving goods from one level to the next can be minimized if the transaction can be reduced to a routine. For a transaction to be routinized it must happen according to rules, and both sides must understand the rules. Even more fundamental is the need for confidence growing out of the established relationships of buyer and seller. Performance on each side rests on the belief that the other side will behave as expected. Out of long acquaintance each becomes a point of reference for habitual behavior by the other.

It is well to remember here certain linguistic coincidences. The word "customer" comes from the same root as the word "customary." Both derive from "custom," meaning habit or established practice. The word "routine" is readily traced to "route," which means a customary course or way. A related word is "channel," a variation on the word *canal* in Old French. Thus channel means a fixed and clearly marked route. In marketing practice there could be no channels without routines. Some advocates of the free market tend to regard all such institutional structures as restrictions on economic freedom. We will try to show later that marketing channels are essential to effective competition and to the orderly and efficient movement of goods.

One of the functions of advertising is to contribute to the routinization of repetitive transactions. A brand name comes to stand in the place of a set of product specifications. This avoids the need for specifying in detail what is wanted for every successive purchase of the same article. Routine handling of actual transactions is promoted when the majority of buyers come to prefer one brand or another. Thus discussion of product specifications is largely eliminated except from those transactions in which the buyer is considering a change. Channels of communication parallel and supplement the channels for the physical movement of goods.

Effective Search through Marketing Channels

The discussion of sorting heretofore assumes that the goods desired by buyers and the customers desired by sellers are readily available. Actually, a perfect market in that sense does not always exist. A buyer with a particular need starts looking for a product with the desired specifications with no assurance that a product of this precise character exists. The same is true for the producer who has increased his production but cannot be certain that customers are to be found to absorb his surplus. This aspect of market behavior may be called "searching." To the extent that buyers and sellers must cope with uncertainty they are engaged in a double search. If the search is successful it leads to the completion of the sorting processes of allocation and assorting which have already been considered.

What is called "shopping" is searching as carried on by consumers. The

shopper starts out with some conception of what is wanted, more or less clearly defined. As a shopping trip proceeds the shopper gains knowledge as to what is available. At each stage the shopper has the option of taking something which is fairly satisfactory or continuing with the search. Usually the shopper does not search at random but goes to the most likely place first. The organization of retailing by separate lines of trade facilitates searching by consumers. The retailer, in buying new items for his store, may be regarded as representing the consumer in searching among sources of supply which are not readily available to the consumer. Thus channels facilitate searching as well as sorting. The same thing is true from the side of the producer who ordinarily searches for new customers through existing channels.

The search problem was analyzed from the military viewpoint during World War II. Principles of efficient search were developed governing such situations as airplanes searching for submarines. Searching in the market place absorbs effort, and this effort can be employed with varying degrees of productivity. The need for efficiency creates a need for specialists in searching as well as in sorting. Particularly is this true if the good to satisfy a need does not actually exist or the demand which can absorb a surplus has yet to be aroused. Special knowledge is required to locate the production facilities which can turn out a new product or the segment of the market which can most readily be induced to accept it. Such activities as product development and marketing research are expanding rapidly in the attempt to meet these problems.

The tendency to maximize productivity in economic activity leads to specialization in marketing as it does in production. A sequence of marketing agencies hangs together to constitute a channel for a given product. Cohesion is promoted by the advantages of the routine handling of transactions made possible by mutual confidence. The successive agencies tend at the same time to remain under separate ownership and control because of the discrepancy of assortments, the principle by which the natural association of products differs at each level. Both sorting and searching, the fundamental marketing functions, are facilitated by the existence of marketing channels. Exchange is inherently dynamic and tends to evolve a structure through which an increasing volume of transactions can be executed at the same or lowest cost.

THE DYNAMICS OF MARKET ORGANIZATION

The system of marketing channels in an exchange economy is steadily undergoing change and adjustment. The exchange mechanism reacts to changes in production and consumption. The existence of an effective distribution system is in turn a potent factor affecting the behavior of producers and consumers. Finally, there is the principle of the proliferation of opportunity whereby the chance for success of a new business firm rests in part on the prior existence of other firms. This principle accounts for the steady

growth in the number of firms at all levels but operates with special force with respect to firms engaged primarily in marketing. These dynamic aspects of market organization will be discussed in this section.

Expanding Markets

Market demand increases either because there are more people in the market or because of greater consumption per capita. Expansion of demand has been occurring for both reasons in the United States. Marketing channels have been undergoing modification both because of these increases and because of shifts in the distribution of population and in the patterns of consumption.

To predict the effect of increased population on consumption and hence on marketing channels it is necessary to consider the increase by age groups. Currently the increase has been greatest among infants and among elderly persons. A boom has resulted in certain classes of goods and in types of stores which handle them. Fewer young people are reaching marriageable age than a few years ago. This has caused a drop in the rate of family formation with repercussions affecting many intermediary agencies including plywood jobbers and furniture retailers. Increased consumption per capita is a result of increased productivity reflected in consumer income. The pattern of this increased demand is affected by such factors as the scarcity of domestic help. Housework is an activity subject to only slight increase in productivity with a consequent transfer of workers to other occupations. Workers are taking part of their increased productivity in the form of shorter hours. That helps to create demand for certain types of goods and services and to provide opportunities for the corresponding types of business firms.

Shifts of population have brought major changes in marketing channels in the post-war period. The marketing system has been largely reconstructed in some lines of trade, particularly in the South-West and the Far-West.

Changing Techniques of Production and Marketing

Technological change in production has a powerful impact on marketing, and the reverse is almost equally true. New products are introduced which in some cases cannot be handled by the older channels. A striking illustration is the recent development in the use of anhydrous ammonia as a fertilizer. This substance is forced into the soil in gaseous form, and special equipment is required. A new type of distributor has sprung up in the cotton growing area using pressure tanks for storage and delivery trucks equipped with specialized applicator nozzles.

In other cases, existing dealers and distributors have taken on the new technical products, but their selling and service activities have been greatly modified. Much time is spent on installations and on demonstrations to teach the consumer how to use the product effectively. To the extent that a marketing channel must transmit technical information, its efforts tend to become

restricted to a limited number of items. Other factors on the production side which affect marketing channels include the relocation of basic industries such as steel. Another is the trend toward continuous process manufacturing resulting in new demands on the marketing system.

Changes in production methods and in market demand mean a constant shift in the task of marketing. The existence of independent intermediary agencies provides flexibility for effecting the necessary adjustments. New products can be introduced rapidly by securing the support of brokers or specialized distributors. The level of consumption can be maintained by causing goods of frequent purchase and established demand to be stocked in the maximum number of outlets. The general availability of service and repair parts encourages consumers to buy products whose sales would otherwise be more limited. Our productive plant and our marketing system is a single integrated mechanism with expansion on one side requiring expansion on the other.

Proliferation of Opportunity

The opportunity for a firm to specialize in marketing activities obviously depends on the existence of other firms. The development of one type of intermediary changes the marketing structure and may prepare the way for still another type. Instead of opportunity being exhausted by the entry of a new firm or type of firm, opportunity may be said to proliferate because of the several ways in which an existing firm may be the point of departure for a new one. First of all, the new firm may be the complement of the existing firm. The relation between complementary firms has been analyzed at some length by Boulding.[4]

Two firms are complementary when the existence of each increases the likelihood of the survival and success of the other. The relationship of complementary firms resembles the relation of symbiosis so frequently found among plant and animal species. The combination of firms or organisms is engaged in exploiting a joint opportunity. The exploitation of joint opportunity by firms which are differentiated as to function is one of the most fundamental and characteristic features of marketing channels.

The combination of firms constituting a channel may consist simply of a manufacturer and a retailer. In other instances there may be two or more steps in between—as, for example, a wholesaler and a broker. If the channel is regarded as extending all the way from the producer of the raw material to the ultimate consumer, it may be still more complicated. Processing may take place at several points along the way with various kinds of marketing agencies in between. One illustration is the channel which brings a loaf of

[4] K. E. Boulding, *A Reconstruction of Economics* (New York: John Wiley & Sons, 1950).

bread to the family table. The wheat grower sells to a local elevator which may ship to a terminal elevator or directly to the flour miller. The miller sells through a broker to bakers and wholesale grocers. The baker may provide home delivery through his own trucks or sell to a retail grocer who in turn sells to the consumer. Meanwhile, the wholesaler is selling flour to retail stores and small bakeshops, which in turn sell either flour or bread to the consumer.

The survival and prosperity of every firm in the channel is dependent upon the success of the others. If the baker is inefficient, the miller is penalized almost as directly as by his own inefficiency. If the earnings of both the miller and the baker would be increased by eliminating the flour broker, the latter would not be able to maintain his position. If some new type of intermediary could improve the input-output relationship of the channel as a whole, it would not take him long to gain a foothold.

Large manufacturing firms create opportunity for numerous smaller firms engaged in wholesaling and retailing. These smaller firms may complement the activities of the manufacturer in a highly specialized way, as in the case of most automobile dealers and appliance distributors. Large distributing organizations find their complements in a similar way among small producers. The large firm in either case often extends a variety of management services to the smaller firms. This practice is an indirect acknowledgment that the prosperity of the large firms depends on the survival of the smaller. A notable example is found in tire marketing. The tire manufacturer stands ready to help his dealer in picking a location, planning store layout and fixtures, installing accounting controls, and in many other business problems.

Even though a complementary relationship is already well established, there may be an opportunity for a new firm to enter on one side or the other. The new firm is then competing for the opportunity to cooperate with existing firms. In some cases it may simulate what is already being done as closely as possible. It may readily gain a foothold if it is competing with a firm which formerly held a monopoly in its limited field. Some of those who dealt with the pre-existent firm are disaffected and pleased to have a chance for a new connection. Others will give the newcomer a part of their business to help keep him alive as an alternative to their main connection. Sometimes the older firm is too cautious to expand, so that the newcomer provides the facilities needed for growth. In any case the new firm finds its opportunity in certain limitations of the older firm whose form of operations it is adopting.

More frequently the newcomer will deviate in one way or another from the established pattern. Its market position will be more secure if it performs a distinct function and one which the older firms are unable to assume. The deviation may consist of nothing more than setting up the same type of business in a different community. The deviant firm may attempt to appeal to consumers at a higher income level by offering additional services or to a lower income group by eliminating services and reducing prices.

Deviation may take the form of separating out a function to allow for more specialization, as in the case of the food broker who negotiates sales without assuming either ownership or possession of the goods. It may consist in combining functions for better co-ordination, as illustrated by the chain organization with both retail stores and a wholesale warehouse. A major deviant trend in recent times has been the wholesaler without stocks operating in fields where there is a need for intermediate financing and risk-taking but nothing to be gained through separate wholesale inventories.

The opportunity for a deviant firm frequently arises because of the self-imposed limitations in the policies of the established firm. The credit jeweller gets a chance because the old-line jeweller frowns on installment credit. Together they cover the market, but each occupies a niche that is closed to the other. Some manufacturers will sell only through wholesalers, leaving others to meet the desire for direct purchases by retailers. The stability of the first manufacturer's position rests largely on his distribution policy, but it does not enable him to control all of the business. An organization usually adopts a fixed policy to inspire confidence and thus to enable it to do an orderly and profitable business. There is no escape from the fact that the very announcement of a policy may give some other firm a chance to establish a foothold by deviating from this policy. To occupy a specified position is to leave other possible position unoccupied.

It has been pointed out elsewhere that the drive for competitive advantage in position in any system keeps the system in ferment.[5] Not only does the competitive exploitation of opportunity lead to changes in the methods and structure of individual firms but it tends to bring about shifts in the number and character of firms in existence. In one sense there is a tendency toward an equilibrium number of firms by categories, but it is always an uneasy equilibrium within the channels of distribution. The number of firms tends to be equated to the number of available niches or footings in the market.

A niche may be defined as a place that is suited to the capacities of a person or an organized group. Such a footing in the market constitutes an effective opportunity for a firm if it represents a sufficient nexus of supply and demand to sustain the minimum operation necessary to survival. Both supply and demand are radically heterogeneous, so that there must be a continual sorting out of segments of supply and demand and a matching of these segments with each other. To discern the existence of such a nexus is to recognize opportunity.

The firms which make up marketing channels stand in a special relationship to economic opportunity. Since they require goods for resale rather than use, they are oriented to supply and demand of an intermediate character. Their opportunity is contingent on the willingness of others to use them as

[5] Wroe Alderson, "Survival and Adjustment in Organized Behavior Systems" in Reavis Cox and Wroe Alderson (eds.), *Theory in Marketing* (Chicago: Richard D. Irwin, Inc., 1950), p. 85.

a channel. Yet many types of intermediate units find suppliers and customers ready to use them. The contingent nature of their opportunity does not operate so much to restrict their numbers as to create a constant potentiality for shifting channels. Some of the most fundamental channels of trade in the United States seem to have been in a constant state of revolution for decades.

The opportunity for all types of firms is inherently dynamic in a market economy since shifts in demand and in competition are always possible. The greater dynamism in marketing channels is only a matter of degree. Opportunity creates instability in the system because the exploitation of opportunity by one firm changes the outlook for other firms. In general, it may be anticipated that the success of one firm or type of firm creates opportunity for others.

Only a free market economy gives full play to the principle of proliferation. A free market is not only a market in which existing enterprises are free to trade with each other. An even more fundamental freedom is freedom for all parties to try to organize the market from the standpoint of their best opportunity as they see it. In order for proliferation to take place promptly and constructively, the economy of a country must have the enterprise spirit and tradition as well as a favorable legal framework. In other words, the attempt of the individual to establish his own enterprise must be accepted as a normal aspect of the universal struggle for status. In an increasingly complex economy the aspirant seeking entry into the market must also have the training and experience which gives some chance of survival. The enterprise spirit might eventually be dulled or diverted if there was not a goodly number of entrants succeeding in such fields as retailing along with the many failures.

In summary, the analysis of factors affecting marketing channels rests on the conception of a system of action of which the individual firms are elements. Each firm struggles for survival and for improvement of its position within this system. This drive for position is not restrictive if the economic base of the system is stable or expanding. Instead, it manifests the proliferation of opportunity as the success of existing firms tends to open the way for others. This is particularly true of firms in intermediary distribution, since their opportunity resides in supplementing the activities of other firms. The network of firms in distribution can never come into a final stage of equilibrium, since any given state of the system provides opportunities for new firms, and the entry of these firms leads to a further change of state.

PRODUCTIVITY IN MARKETING

Periodic Congressional investigations of marketing have raised the question of high costs and inefficiency in the distribution system. The intention here is not to refute this charge but to assay the problem of testing its validity. There are ways of discovering weaknesses in the distribution system and

of devising remedies. Many market analysts devote their lives to it. In fact it is out of their experience with the difficulties of making even piecemeal improvements that they derive their scepticism about sweeping indictments or legislative cures. The authors of this volume are endeavoring to contribute to a better informed public policy concerning marketing channels rather than suggesting what that policy should be.

The evaluation of productivity in marketing is a very difficult analytical problem. Critics of marketing frequently view with alarm the large percentage of the consumer dollar which goes for marketing costs. There are no methods available which will give a definitive answer to the question, "Does distribution cost too much?" Productivity questions arise with respect to the operations of the individual unit and the co-ordinated action of units making up a system. Productivity in the system must be interpreted in relation to characteristic aspects of its structure. Productivity over the longer run implies control of risk as well as minimizing cost. The ultimate judgment as to productivity must take account of changing outputs of the marketing system as well as changing inputs.

Productivity can be considered either for the case of the individual marketing unit or of the marketing channel or system. The unit has to strive for efficiency to hold its place in the channel. It does not compete with similar units alone but with the possibility that those it serves can deal with each other directly. Efficient methods can spread quickly from one unit to another because, generally speaking, they can neither be kept secret nor patented. The technology of marketing is constantly evolving because of internal competitive factors and not only because of the pressure created by changing technologies in production and use.

Productivity and Marketing Structure

It has been shown in an earlier section that structure and function are interdependent, that efficiency in exchange cannot be evaluated apart from market organization. In considering productivity in a marketing system, four simple elements of structure may be identified. These structural elements correspond to arrangements of individual units and may be designated as series, parallel, convergent and divergent structure. The first pertains to the sequence of steps in a marketing channel, the second to competition among channels, the third to a buyer's relation to his suppliers, and the fourth to a seller's relations to his customers.

The productivity of units arranged in series depends on good communication. Essential product knowledge must get through the channels to the user. Market knowledge must feed back through channels to the supplier. To act effectively, a channel must in some degree respond as if it were an integrated whole. That means that a program or policy advocated by one unit in the series must be accepted by other units to achieve co-ordination. Successive units in a series can behave in such a way as to make it easier and more

economical to do business with each other. A large part of their dealings can be reduced to routine, while other aspects can be reviewed or opened for reconsideration at intervals. Economy lies in the direction of making the flow of goods semi-automatic even though the successive units are autonomous.

The most productive relationship among parallel units would be one which might be called "selective competition." Each competitor would try to capture that part of the market he was best fitted to serve. Wholesalers in neighboring cities, for example, would spend a relatively small proportion of effort in invading each other's territories. Each would recognize the greater value of intensive cultivation of retail accounts closer to home. This type of competitive policy facilitates the matching of segments of supply and demand best suited to each other.

The buyer is obliged to make decisions affecting his suppliers and potential suppliers. He must choose among products offered on the basis of some measure of their value to him. Productivity of the system is impaired if he buys too many items which do not move or if he turns down too many items with a good potential demand. Productivity of the system is promoted if his rating of the products offered is in accord with some objective measure of their merits.

The seller has the task of distributing effort over all of his customers or customer classes. The productivity of the system is increased if he allocates effort to customers in a way that is reasonably proportional to the volume of business that can be expected of each. He may be justified in taking account of potential business rather than basing his judgment solely on current business. It has been shown by analysis of sales costs that the cost of cultivating a small customer may be greater than the entire business obtained from him. On the other hand, there are risks involved in concentrating too high a percentage of volume with a few large customers.

Handling of Risk

As a part of the movement toward more efficient methods in marketing there are various attempts by marketing agencies to cope with risk. The general strategies for dealing with risk include (*a*) the shifting of risk, (*b*) the pooling or hedging of risk, and (*c*) the elimination of risk through control of the operating situation.

Attempts to avoid risk by shifting it to others is a common feature of marketing channels. Retailers demand various guarantees as to salability of a new product. Manufacturers sometimes attempt to load up their distributors with surplus stock when they anticipate a change in the market, either as to declining demand or the advent of new products which will make the old ones obsolete. In the case of some farm products the nature of the Government price supports has enabled the distribution trades to avoid marketing risks that were formerly incident to the business.

Hedging marketing risk by offsetting purchase and sale transactions is a traditional feature in the marketing of certain basic commodities. The whole-

saler and retailer succeed to some extent in spreading risk over the wide range of products they carry. Violent price fluctuations, product obsolescence, or other marketing hazards are not likely to affect all commodity lines at once.

Of still greater importance in its impact on marketing channels is the attempt to eliminate risk by controlling all the critical factors in an operating situation. The critical factors affecting the operations of one marketing agency often lie outside the immediate domain of its executive management. The behavior of the firm's suppliers or customers may have the deciding influence on the outcome of a marketing program. A large manufacturer faced with the risk of having an expensive promotional program fall flat may undertake to give direction to the efforts of his distributors and dealers. Even though he is convinced that his customers would profit from conforming to the plan, he is not content to assume that they will do so on grounds of rational self-interest. The advantages to the customer have to be pointed out and he usually needs to be given instructions as to what to do about it. Only when someone in the marketing channel takes responsibility for co-ordinated action can it be expected that anything more than routine operations will be carried out effectively.

The initiative in the co-ordination of marketing effort is commonly exercised by a large firm dealing with a number of smaller firms. The large firm has the greater incentive to minimize risk and usually the greater resources for developing an effective plan. The attempt of a large firm to control the actions of small firms is likely to be viewed with suspicion by regulative agencies, whatever the justification from an operating standpoint. Attempts of a manufacturer to utilize different types of retailers and wholesalers in accordance with the facilities they offer often lead to charges of discrimination. There have no doubt been serious abuses in the past, and legislation such as the Robinson-Patman Act has made sellers more conscious of their responsibilities to the intermediate agencies which serve them. Many firms welcomed this law at the time as an aid in withdrawing from admittedly unsound practices in which they had become involved.

Equally difficult problems as to control and risk arise when co-ordination is attempted by a large buyer. This buyer may be a chain store organization, a manufacturer buying materials and component parts, or a governmental agency. The buyer sometimes prescribes product standards, production methods, procedures in handling transactions and even the margin of net profit for the supplier. While many regard these conditions as onerous, quite a few accept them as the price of security. Actually such complete reliance on a single large customer does not eliminate risk so much as transforming its character. There is still the risk of being cut off for unsatisfactory performance. There is also the risk that the volume of sales of the large buyer, and hence his purchases, will decline and that the small supplier has meanwhile lost the flexibility needed in adjusting to changing markets.

The Changing Task of Marketing

A further dimension of the problem of measuring productivity in marketing is that of defining the job which the marketing system is supposed to perform. Any measures of efficiency in performance necessarily start from job specifications. In marketing, the question has been raised as to whether any improvement was taking place because there was no apparent change in certain crude measures of efficiency. One of these is the percentage of the consumer's dollar which is absorbed within the marketing channels. This figure could remain the same or even increase despite an improvement in marketing efficiency. One way that this could happen would be for production costs to decline at a faster rate than marketing costs. In percentage terms this would result in a surface indication that marketing was growing less efficient, even though the decline in production costs might have been brought about by innovations in marketing.

There is another way in which this statistical fallacy could occur which is more directly pertinent to the present discussion. That could happen if the functions performed by the marketing system had risen by a greater amount than was needed to offset the apparent increases in marketing costs. There is evidence of a steady secular trend in the direction of enlarging the scope of the job performed by the marketing system. This is related in part to the fact that the number of items flowing through marketing channels is constantly increasing. It is also related to the fact that many few products have relatively severe requirements for their installation and successful use. Thus increased amounts of technical information and service must be transmitted through marketing channels. Under these circumstances the marketing system performs a larger function for both the consumer and the producer. The consumer is presented with an increased range of selection and the opportunity of finding something which is more nearly adapted to individual requirements. Consumers not only are able to satisfy their present tastes more accurately but are able to develop more discriminating tastes in various classes of merchandise. This leads to greater consumer specificity, and the whole economic system, including production and distribution, must then undertake to adapt itself to meeting these requirements.

Similarly, the marketing system is called upon to perform a task of increasing scope for the producer. Developing technology and competition bring about higher and higher levels of investment in capital equipment. In relation to a given volume of production, the greater the fixed capacity the higher the break-even points which must be taken into account in manufacturing policy. Manufacturers operating on the basis of high break-even points are more and more concerned about establishing stable positions in the market in order to sustain the required levels of operation. The sales programs through which they undertake to gain such stability must be effectuated to a large extent through distribution channels. Intermediary firms are required to use salesmen of more and more specialized training and other specialized

facilities to meet these requirements. With these steadily increasing demands upon its services from the side of both the supplier and the consumer, the distribution system is actually showing an increase in efficiency as long as its share of the consumer's dollar does not increase.

In summary it may be said that the issue of efficiency of waste in distribution is at least as complex as the same question posed for production in general. The question whether distribution costs too much has not always been asked without prejudice. At the same time some of the investigations which have been conducted in an effort to answer it have had definite value. They have helped to show the complexity of marketing channels and to illuminate the way that structure tends to become adapted to the functions performed. The efforts of intermediaries to minimize risks are found to bear some relation to operating stability and efficiency. A better understanding of the scope and urgency of the task which marketing performs for both the consumer and the producer has resulted.

MARKETING CHANNELS AND THE THEORY OF COMPETITION

Productivity in distribution depends on advancing technology within individual marketing units, on the spread of technology from one unit to another under the pressure of competition, and on the co-ordinated efforts of units arranged in various structural patterns. Several possible methods of accelerating this process of improvement in efficiency might be visualized from a public viewpoint. One would be public sponsorship of research and experiment designed to advance marketing technology. Another would be a public information system calculated to speed up the spread of technology. A third would be legislation designed to control the development of marketing structures or the types of co-ordination which prevailed among the units within a structure. The first two possibilities have been represented by some of the programs of the Department of Commerce. The third has been the sphere of the Department of Justice, the Federal Trade Commission, and specialized regulatory bodies for various fields of business activity.

Discussion in this section will be restricted to considerations bearing on the regulation of marketing channels. A review of major developments in regulation appears in Chapter 20. The purpose here is to compare two different approaches to a theoretical perspective which might help to shape public policy in these fields. One is competitive theory in its various versions. The other is the opportunistic theory of the interaction of firms which has been sketched in an earlier section.

Bilateral Monopoly

In recent years economists have given some attention to what has been called successive or bilateral monopoly.[6] The general conclusion of this analy-

[6] See A. C. Hoffman, *Large Scale Organization in the Food Industries, T.N.E.C.* Monograph No. 35.

sis is that two monopolists are worse than one when they stand in vertical relationships in successive stages of distribution. However precise the mathematics of the situation, it is being applied to a largely unreal and wholly exceptional case. The whole analysis overlooks the discrepancy of assortments at successive levels. Successive monopoly seldom happens, because large concerns at successive levels of distribution are engaged in activities which are generally not congruent. Consider the case of manufacturer No. 1 and retailer *A*, who deal directly with each other. The manufacturer sells not only to *A* but to other retailers *B* to *K*. The retailer buys not only from manufacturer No. 1 but from other manufacturers 2 to 12. Successive monopoly is rarely present in real life because the two firms at successive stages do not have a common field to monopolize.

There are some exceptional situations in which the product assortments are similar, as between two or more successive stages in distribution. These situations are favorable to vertical integration. The progress of integration is likely to extend to just those stages for which product assortments are similar. An outstanding example is petroleum products. Gasoline and lubricating oil start out together as petroleum from the ground and are part of the same raw material assortment. A large part of the volume ends up as fuel and lubrication for automobiles and hence is part of the same assortment. For obvious reasons, the consumer is likely to buy both at the same time and place, making them part of the same shopping assortment. Both products are derived from the processing of crude petroleum in the same refinery, which makes them part of the same process assortment. They have somewhat similar characteristics for storage and handling and are in fact stored and handled in the same facilities. It is hard to match the petroleum industry in the extent to which the same assortments are found at all successive stages. It is also hard to match the industry in the degree to which marketing channels have become integrated. The industry is not, however, marked by the presence of bilateral monopoly.

Balance of Power

Big manufacturers and big retailers are constantly having to deal with each other as well as with a large number of small firms. The big company on either side is trying to make its plans and policies effective. Often these plans clash, and it is generally unlikely that one side will conform to the plans of the other without reservation or opposition. Each has a stake in brisk competition at the level occupied by the other. Each is tempted to play the small firms off against the large one. Some writers have called this phenomenon "the competitive struggle for market control."[7] The implications of this phrase are too sweeping for the average case since each side is interested in giving effect to its specific programs rather than in gaining general control as

[7]Craig and Gabler, *op. cit.*

an end in itself. The typical outcome is a balance of forces among the parties to the struggle.[8] This balance can be upset for considerable periods of time if one side has superior resources or strategies. At best the balance of forces in marketing channels is an uneasy equilibrium as compared with any theoretical model of stability.

There have been some interesting speculations as to the way in which the general balance of power may shift between buyer and seller and as to the resultant effect on marketing channels. One article on the subject comes to the conclusion that the public interest would be served if large retailers held predominant control of marketing channels.[9] It is argued that the selling function could largely be eliminated with an immediate and favorable effect on costs. The long-run effect on costs would be quite the reverse. Manufacturers would be unwilling to accept the risks of the high degree of specialization that promotes efficiency in production. They would also be unwilling to undertake the kind of advertising expenditures which send consumers into retail stores with their choice of product predetermined. Thus the retail costs as well as manufacturing costs might be expected to increase.

All this assumes that retailer dominance could be maintained once it had been achieved. The truth is that an immediate reaction would set in against any temporary dominance. In that sense there is a constant tendency toward the equilibrium of market forces. The present view is that the public interest is served by a balance of power rather than by a general and prolonged predominance of any one level in marketing channels. This view is argued cogently in a recent book discussing "countervailing power,"[10] a concept which is a commonplace in marketing, although evidently new to the general economist.

There are significant ways in which interest motivates large companies to work for balance in marketing channels. One problem confronting the manufacturer of a specialty product is to determine the correct number of distributors for effective coverage of the market. The number must be large enough to make the product readily available in every segment of the market. The number must be small enough to provide a satisfactory volume to the average distributor and hence stimulate his best efforts in selling it. The considerations entering into such a decision have recently been discussed in an article by Melvin T. Copeland.[11] A manufacturer, together with his distributors and dealers, may be said to constitute a loose coalition engaged in exploiting joint opportunity in the market. Coalitions have been discussed

[8]Wroe Alderson and Robert E. Sessions, *Economic Study of Tire Marketing* (Philadelphia : Alderson & Sessions, 1950).

[9]Craig and Gabler, *op. cit.*

[10] John Kenneth Galbraith, *American Capitalism—The Concept of Countervailing Power* (Boston : Houghton Mifflin Co., 1952).

[11] "Dynamic Distribution" in Hugh G. Wales (ed.), *Changing Perspectives in Marketing* (Urbana: University of Illinois Press, 1951).

in recent economic literature with a growing understanding that they represent essential cooperation for getting a job done and not necessarily monopolistic collusion imposing restrictions on the market.

From the brief discussions of bilateral monopoly and dominance by large firms it may appear that critics of marketing channels are unhappy about a variety of market structures. They are uneasy about the consequences of having a large buyer confronting a large seller. They are equally concerned about the situation in which large firms on one side deal with small firms on the other. The ideal which such critics have in mind is an economy in which there would be a multiplicity of small concerns at each level. If it were possible to enforce such a model of competition, the results would be disastrous in terms of increased costs and lowered productivity in marketing. Economies of scale, which under present arrangements are substantial, even though they are not so great as in production, would disappear. Even more serious in many instances would be the loss of effective co-ordination. The more complex the marketing task becomes the more necessary it is for a channel to operate as an integrated whole in order to attain efficiency. *Having first established a model of competition which ignored the existence or the need for channels, some economists then attempt to apply this irrelevant model in a critique of channels.*

Competition and Business Population

Other critics of marketing proceed less on theoretical grounds than on their interpretation of purported statistical trends. The assertion is made that the number of competitors must inevitably decline in one field after another.[12] The struggle for a place in the market is held likely to end in catastrophe for all but a few. The very drive for status which led new firms to enter the field might lead the larger existing firms to gobble up the smaller ones. If consolidation was pushed in a vertical direction, it might be expected that channels would become fully integrated. Smaller firms operating at only a single level might either be absorbed or annihilated by the competition of fully integrated firms. Common experience indicates that there are definite limits to such vertical integration. One study clearly shows a point of saturation for that form of integration known as chain stores. For more than 25 years the food chains have done about one-third of the business in their fields. The drug chains for the same period have been stabilized at about 25 per cent of the total volume. Similar limits to the chains' share of the total would have been discovered in a number of other lines.[13]

In a more general way, the decline of competition is not confirmed statisti-

[12]Arthur S. Burns, *The Decline of Competition* (New York : McGraw-Hill Book Co., Inc., 1936).

[13] Nathanael H. Engle, "Chain Store Distribution versus Independent Wholesaling," *Journal of Marketing*, September, 1949.

cally by the official studies of business population.[14] The number of firms in business in the United States has continued to increase since 1929 at about the same rate as human population. It is true that new businesses tend to be small just as new people are small. It is also true that businesses tend to increase in size if they survive, which is a further parallel with human growth.

There are significant long-time trends as to the number and character of marketing firms. The 1948 *Census of Business* showed a levelling off in the number of retail establishments, but a continued increase in the number of wholesale establishments. In both cases there was a change in the percentage distribution by lines of trade with an increasing percentage handling consumer durable goods and semi-luxury merchandise. For the future it may be anticipated that the character of retail stores will continue to change, while the total number remains about the same and the average size of stores moves steadily upward. Wholesalers and other types of intermediaries for the immediate future will continue to increase in number and variety.[15] Thus the total number of firms in marketing seems likely to increase, but the increase will be in the direction of more specialized intermediaries rather than horizontal expansion at the retail level.

Market Balance and the Distribution Structure

The structure of marketing channels is affected by boom and depression, by scarcity and relative abundance of products to sell. A characteristic feature of the business cycle is the fluctuating rate of business failures. Retailers and other intermediary marketing agencies are especially vulnerable to the hazards of depression. In general, the capital of retail stores is largely tied up in inventories. A price decline operates directly to cut the value of these assets. As the rate of turnover drops, the disparity increases between the original purchase price of the retailer's stock and the replacement price in the current market.

The upswing of the cycle favors the rapid development of marketing agencies both in number and type. The birth rate for new businesses is high because of the prevalence of an optimistic spirit and because the conditions of survival have been temporarily eased. Retailers and wholesalers enjoy automatic inventory profits as long as prices continue upward. The efficient firm obtains the wherewithal for further expansion, while the effects of waste and inefficiency are cushioned for other firms.

Somewhat different reactions are observed in a boom that is coupled with scarcity as in a period of war or a high level of defense expenditures. Such a period is marked by a slowing down in the growth of marketing firms and an actual decline in some trades. This trend arises primarily from a low birth rate

[14] *Cost and Profit Outlook*, March, 1952. (This publication is a monthly letter issued by Alderson & Sessions, Philadelphia.)

[15] *Ibid.*, June and July, 1950.

rather than high mortality. Conditions are favorable to the survival of those already in business, particularly small retailers. Rationing plans assure existing retailers of a fixed share of the goods available for sale. Operating costs decline because consumers are less demanding as to service, and the labor is not available for continuing service at the former level. However, the imposition of price controls to halt inflation may throw a substantial amount of sales and profits into the special channels known as the black market.

While there is a real shift from a seller's market to a buyer's market and back again, this terminology is a source of confusion if used carelessly. There is little resemblance between the seller's market that arises during the peak of peacetime prosperity and that which is the result of wartime scarcity. The healthier market condition is that of a slight balance on the side of a buyer's market, a position that is adopted on the ground that a buyer's market enables the retailer to play the dominant role in organizing distribution, a position that is taken by some analysts. Rather it is felt that the buyer's market favors a more precise definition of the opportunity for each firm and a greater stability of market positions for those who have attained a foothold. Such a condition should promote more efficient expenditure of effort by the average firm and a better overall allocation of resources to the satisfaction of consumer wants.

Free Competition and Marketing Channels

In a free market economy the trend is toward providing every buyer and seller with an adequate set of alternatives. If there is not an adequate range of choice as to source of supply for a given type of buyer, this very fact tends to create opportunity for new suppliers. A needed development in marketing channels is inevitable in the long run, even though it may be frustrated for a time by inertia or the opposition of those who hold established positions in the field. Wise regulation of marketing can remove restraints and leave the way open for this trend toward economic freedom to work itself out. It cannot give substance to economic freedom in the abstract, apart from the alternatives which are truly meaningful for each buyer and seller.

The trend toward more effective organization of the market determines the steps or stages that will appear in marketing channels and the number of marketing firms operating at each stage. The number and character of marketing firms can scarcely be adjusted perfectly to the current marketing job, since adjustment does not take place instantaneously. Rather the marketing structure today represents some kind of a compromise between past structure and present requirements.

The evolutionary view adopted here finds the roots of complex marketing channels in the more rudimentary institutions of the past. It is directly opposed to the Calvinistic version of economic development that is implicit in orthodox economic theory. Perfect competition is treated under that doctrine as if it once prevailed as an original state of economic grace. The fact that the organization

of markets today does not conform to this state seems to indicate that there must have been a fall from grace. The true picture is that exchange began very tentatively as men slowly perceived its advantages. It was a great step forward when a family or tribal group with a surplus of product *A* found that it could effect an exchange with a group holding a surplus of product *B*.

To respond to opportunity is to accept a status which offers a certain range of choice among goals or courses of action. In a market economy some of the most fundamental alternatives are presented in terms of the amount of freedom of choice as to the purchase or sale of products. For some purpose, economic theory assumes that the range of choice is practically infinite, as for example in the number of wholesalers who stand ready to supply the needs of a given retailer. The existence of an infinite range of choice is not a realistic requirement for economic freedom in an actual marketing system. What is essential is that the buyer and seller each have an adequate though finite range of choice among significant alternatives. That means that the buyer must have the opportunity to choose on the basis of qualitative differences in product and service as well as making decisions as to price and quantity. The seller likewise should have room for judgment as to the customers and conditions of sale which will best serve his advantage.

33 / *The Contactual Function in Marketing*[1]

EDMUND D. MCGARRY[2]

The functional approach to the study of marketing has long been used by many writers. The contactual function has as its objectives the identification of potential buyers and then of establishing and maintaining contacts between those who have the goods and those who may wish to buy them. Obviously this is a critical function since it involves a number of related marketing activities. In this article the author discusses the nature of the contactual function, its historical development, the inevitable conflict between buyers and sellers, and the economics of contactual relationships.

THE CONTACTUAL FUNCTION IN MARKETING HAS TO DO WITH the searching-out of the market for the purpose of finding who the potential customers or the potential sources are and then of making and maintaining connections between those who have goods to offer and those who may want them.[3] Since the main task of marketing is to make the adjustment between what people desire and what it is practical for business to supply, it follows as a corollary that contacts must be made at each successive step in the marketing process. Through these contacts flow the information which consumers need regarding the goods available and their sources, on the one hand, and information which producers need concerning consumers and their wants, on the other. Even more important than the communication of information, however, is the allegiance built up between contacts, which affords a major means for this adjustment. The maintenance of these contactual relationships, however informal they may be, forms the framework for the structure of marketing which is necessary in any economy in which production is divorced from consumption.

To those who are engaged in the work of marketing as part of their day-

[1] For the term and concept "contactual function" the writer is indebted to Ralph F. Breyer, *The Marketing Institution* (New York: McGraw-Hill Book Co. Inc., 1934), p. 6.

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[3] The term "source" is used in the business sense to mean the available or potential sellers of a product. The present article is a further development of the thesis first presented in my essay, "Some Functions of Marketing Reconsidered," in Reavis Cox and Wroe Alderson (eds.), *Theory in Marketing* (Chicago: Richard D. Irwin, Inc., 1950).

SOURCE : From *Journal of Business*, University of Chicago Press, vol. 24, April, 1951, pp. 96-113. Edmund D. McGarry: See footnote 2 above.

to-day activities, the subject is likely to appear as a simple process of buying and selling and of performing such other routines as are conventionally required for this work. But the process is one of infinite complexity and of profound significance when considered in its relationship to man's other activities and to the social structure in which he lives. In order to understand these relationships and to assess their implications in modern life, it is important that the process be considered at the level of its overall operation and from the point of view of the part it plays in man's endeavors to adjust himself to his environment.

Marketing, when viewed in its broadest terms, as an essential part of man's adaptive behavior, can logically be broken down into a number of separate functions—essential elements which must be performed in order for the process to fulfil its purpose. These functions, as suggested by the writer in a previous article,[4] are (1) the contactual function (examined in this article); (2) the merchandise function, comprising the various activities undertaken to adapt the product to the user's ideas of what is wanted; (3) the pricing function, dealing with the prices at which goods are offered or at which they will be accepted; (4) the propaganda function, including all the methods used to persuade the potential users to select the particular product and to make them satisfied with the product, once they have it; (5) the physical distribution function, covering transportation and storage of the goods; and (6) the termination function, embracing the actual change in custody of and responsibility for the goods and the culmination of the process.

The Nature of the Contactual Function

The contactual function consists of all those efforts in the marketing field the aim and purpose of which is to form a bond of mutual interest in the first instance between the marketer and his customers and, in a broader sense, between the producer and the consumer. Since these activities pervade the entire marketing system, the elements constituting the contactual function cannot ordinarily be isolated and made the basis for a division of labor but must rather be abstracted from the economic process as a whole and fitted into a scheme which will provide perspective and understanding of the major task of marketing.

The contactual function is usually performed along with the other functions of marketing.[5] The seller in making contacts is also trying to sell goods; he is performing the merchandising function, the pricing function, the propaganda function, and when the contact culminates in a business transaction, he has performed all the functions of marketing. From the short-range point of view,

[4] "Some Functions of Marketing Reconsidered," in Cox and Alderson, *op. cit.*, pp.263-79.

[5] "It must not be understood that the functions of marketing are separate and independent activities. Quite the contrary. Each is intimately interwoven with all the others" (Breyer, *op. cit.*, p. 17).

all the first four functions are aimed at an immediate sale; but, from the long-range point of view, it is the possibility of continuous trade that is the ultimate objective of all contacts.

The contactual function may be initiated either by the seller or by the buyer.[6] In cases where the seller takes the initiative, it consists of two phases. In the first place, he must define the particular segment of the general market he wishes to serve and determine the type of customers he wishes to serve. In this way he is able to concentrate his efforts on the cultivation of what, for him, is the most fertile part of the market. This segmentation of the general market may be made on the basis of mere spatial proximity, on the basis of economical physical distribution, or on the basis of various cultural patterns, such as those determined by income levels, educational backgrounds, habits of consumption, or any other set of common values which form a pattern that indicates a fertile and homogeneous market for the particular product.[7] In any event, once the segment desired has been defined and the characteristics of potential customers have been discovered, the marketer can proceed to analyze the possibilities of his market and, from such an analysis, can determine both the methods needed to cultivate the particular segment he has chosen and the agencies needed to reach it. Continuous studies of this kind enable the marketer to adjust his methods and his policies to the ever changing patterns of his market.

The second phase of the contactual function performed by the seller consists in actually making the contacts with potential customers. Usually the initial contact is made either by the seller himself or by his representative at the buyer's place of business. The immediate purpose of each contact is to become acquainted with the buyer, to learn his wants and attitudes, and to develop a relationship which the seller hopes will ripen into a more or less permanent business connection. Often, of course, some business is transacted on the first contact, but perhaps more frequently several preliminary contacts are necessary before any business of significance is undertaken. In the meantime the prospective buyer has learned to know the seller and what he has to offer, and the seller has become acquainted with the character of the buyer. They have, in short, become adjusted to each other in such a way as to communicate their ideas with mutual understanding.

[6] For an extended treatment of buyer or seller initiative see Harry R. Tosdal, "The Advertising and Selling Process," *Annals of the American Academy of Political and Social Science*, May, 1940, pp. 62-70. Professor Tosdal makes this significant statement: "Under no conceivable efficient arrangement of work would it be possible to have either buyers or sellers take the initiative exclusively without denying the premise upon which this paper is based, namely, that of free private enterprise" (p. 68).

[7] Concerning "segmentation of the market" see Alexander, Surface, and Alderson, *Marketing* (New York: Ginn & Co., 1949), pp. 376 ff. In economic terms, segmentation of the market is an attempt on the part of the entrepreneur to search out that part of the general market which will yield the greatest returns for the capital and labor applied to it.

In cases in which the buyer takes the initiative, the contactual function is performed in much the same way, except that the buyer searches out the more convenient and economical sources for the products he wants, goes to these sources, and tries to develop the confidence of the seller in his (the buyer's) integrity and ability to act either as an outlet for the seller's goods or as a user. In general, so long as goods are pressing upon the market for disposal, as is usual in the sale of manufactured products, sellers take the initiative; but in times of great scarcity there is a shift of initiative to the buyer. Moreover, buyer initiative is almost universal where the goods are of such a nature that they must be concentrated into economic quantities from large numbers of small producers, as is the case in the sale of farm produce. Regardless of which party takes the initiative, however, the result of the performance of the contactual function is the building of a structure for cooperative action.

Whether the seller or the buyer takes the initiative, the essence of the contactual function is the investigation of market potentials, the selection of the most suitable respondents (customers or sources) and the development of mutual confidence and respect between the initiator and the respondents. In doing this, there is a tendency for each party to adjust to the other. Thus an attachment grows up between the parties which makes it easier and more economical for each of them to do business with the other. The knowledge on the part of each of the other's needs, attitudes, and desires lays the basis for the development of a sympathetic understanding between them and tends to build within them a common interest.

The contactual relationship between buyers and sellers is essentially a human relationship, and, because of this, the function is most effectively carried out on a person-to-person basis. Although it is true that a considerable amount of business is carried on through nonpersonal contacts, such as the mail-order business, and there are strong incentives to impersonalize the sale of goods because of the economies available through such means, it is noteworthy that the performance of the contactual function still remains largely on a personal, man-to-man basis.[8]

The performance of the contactual function is perhaps the most costly element in marketing. When the contact is made on a person-to-person basis, the problems attendant on finding a time of meeting, learning the proper approach, adjusting personalities, and discovering a common ground for discussion all consume both time and effort. Furthermore, personnel adaptable to making contacts is relatively scarce and high priced and must usually undergo an extensive period of costly training before being able to carry on the function effectively.

[8] Julius Rosenwald is quoted as having said that, although he had built an extensive business by mail, people would never deal in that manner if they had an opportunity to get the same goods in a store.

Although it is convenient to describe the nature of the contactual function in terms of what happens under a free-enterprise system, in which marketing has had its greatest development, the fact must not be overlooked that this function is essential in any type of economy where production takes place on a mass basis and is thus divorced from consumption. In the case of a consumers' cooperative system, in which production is integrated with marketing, the initiative would theoretically be taken by the cooperators, that is, the consumers, who search out new members, on the one hand, and make the contact with producers, on the other. In the case of a government-controlled economy the contact-making is largely in the hands of the state. Needless to say, it is difficult to see how either of these systems could provide the flexibility of the contactual function which is found in the free-enterprise system and which, as will be shown later, is an essential part of high-level consumption.

Historical Development of Contactual Functions

In a primitive society where man wrested directly from nature the means for his satisfactions, his chief concern was to adapt himself and his needs to what nature provided and to adapt what he found in nature to his needs either as an individual or as a group.[9] As soon, however, as he learned to depend upon the exchange of goods with his fellows, a new element emerged, for he then had not only to communicate his wants to those who possessed the means of satisfying them but also to induce these others to give up something they possessed for something he had to offer in return.[10] Both parties had to sacrifice something and to compromise their ideas. Neither could longer operate as a complete isolationist, for the survival of each depended upon his cooperation with the other. Each had to master the art of making himself congenial to others with whom he traded—to think in terms of the needs and desires of others as well as of his own.[11]

So long as only two individuals or groups were involved in trade, however,

[9] It is unnecessary to discuss here the various theories of the origins of trade. For an excellent summary of these theories see George W. Robbins, "Notions about the Origins of Trading," *Journal of Marketing,* January, 1947, p. 228; see also Morton Solomon, "The Structure of the Market in Undeveloped Economies," *Quarterly Journal of Economics,* August, 1948, pp. 519—41.

[10] Adam Smith thought rightly that it is unnecessary to inquire whether "the propensity to truck, barter and exchange one thing for another" was "one of the original principles of human nature, or whether, as seems more probable, it be the necessary consequence of the faculties of reason and speech" (Adam Smith, *The Wealth of Nations* [Everyman's ed. (New York : E. P. Dutton & Co., 1910)], Book I, chap. ii).

[11] "As contrasted with the other means of acquiring things, trading is by all odds the most complex. It is unique in that it alone is a two-way transaction" (Robbins, *op. cit.,* p. 230).

no elaborate economic machinery for making contacts was necessary.[12] Even in the handicraft economy, such as existed up until a hundred years ago and still exists in many parts of the world, there was little need for any special attention to the making of contacts between those who produced goods and those who were to use them. It was still a relatively simple matter for the consumer to go directly to the local shopkeeper, communicate his needs, and have what he wanted built to his order. Since most goods were made in small shops in close proximity to the customers whom they served, the shopkeeper was intimately acquainted with his customers, knowing the type of goods they required, the prices they could afford to pay, and their numerous whims and idiosyncrasies to which he must cater.

However, the problem became vastly more complicated with the coming of the industrial revolution, when production was removed from the local shop and neighborhood and concentrated in distant factories, which produced for stock.[13] To bridge the widening gap in space, time, and interest between the producer and the consumer, there came into being an elaborate entrepreneurial division of labor, with numerous intermediaries specializing in different techniques at different stages of the marketing process. Thus, in place of the simple producer-consumer contact, there developed multicontactual systems in which several intermediaries bought and resold the products on their way from producer to consumer.

In the task of aiding the adjustment between what the consumer wants and what producers have to offer, the main objective of the contactual relationship is not simply to reach the intermediary at the first stage of the process (the wholesaler) but to reach through all the intermediaries to the final consumer. It is here that the ultimate market lies, and, unless the producer can devise methods by which goods move on to the consumer, his efforts are likely to be fruitless. Out of this fact has arisen the necessity for producers to make supplementary contact with consumers. The widespread use of missionary salesmen, samplers, detail men, and display specialists by producers to make contact directly with consumers indicates the importance of maintaining customer loyalty throughout the channels of distribution. The operational problem of welding together into working organization the numerous intermediaries who take part in the selling of a manufacturer's product and thus making numerous chains of contacts with ultimate consumers is one of the most difficult in marketing.

[12] This statement may be an oversimplification of the situation, because it is not known whether or not there was ever a time when all trade took place simply between producers and consumers. Moreover, in many primitive societies such trade as does occur is often accompanied by elaborate ceremonies.

[13] For a concise description of the changes brought about by the industrial revolution see Alexander, Surface, and Alderson, *op. cit.*, pp. 6 ff.

Conflict and Cooperation

In considering the contact between buyers and sellers in developing a transaction, it must be recognized that there is an inevitable conflict between their respective interests. In order to appraise the value of an item, each party has to relate it to his own particular frame of reference, that is, his own situation. The seller is liquidating a specific concrete good into money, which has many alternative uses, while the buyer is accepting a specific concrete good in lieu of money which he might use for many other purposes. The seller, looking backward to the sacrifices he has put into the good and forward to the maximization of his profit, is prone to place a high valuation upon the item; on the other hand, the buyer, looking first to the money he must immediately sacrifice and then forward to the risks he must take in holding or using the item, is likely to discount the satisfactions he will derive from it and is therefore prone to place a low valuation upon it. This conflict of interest raises an inevitable barrier between the parties which can be resolved only through the give-and-take of compromise.[14]

Because of the conflict of interest between buyers and sellers, each is likely to feel that any advantage which the opposite party derives from the transaction is to be gained only at his expense. Within the area of bargaining this is, of course, true, but economists have long pointed out that both parties gain something in every transaction; otherwise they would not enter it. Moreover, since evaluations are subjective and are related to different situations, the extent of gain or loss in a bargain is, in a sense, indeterminate. For this reason each party must relate his estimate of loss or gain not only to the immediate effect on the opposing party but also to his own situation. Translated into their respective situations, this means an attitude of hostility toward the opposite party, and the transaction becomes an act of strategic importance, comparable to a move on a chess board or the deployment of troops in a battle.[15]

The interests of the parties are at variance not only because of different valuations placed upon the objects of the trade but also because, historically, the market place has always been the bloodless battleground where man could match his wits with other men for a material or psychic advantage. The victor, proud of his shrewdness as a bargainer, is usually rewarded also with high prestige in his community. One need only listen to the bragging of shoppers after a bargain sale to realize that such prestige is still among the predominant motives in many purchases in our modern highly sophisticated civilization.

Furthermore, the market place has always been the happy hunting ground

[14] For a clear and concise analysis of the psychology of consumer buying see Joseph Clawson, "Lewin's Vector Psychology and the Analysis of Motives in Marketing" in Cox and Alderson, *op. cit.*

[15] For an economic analysis of the strategies used by businessmen see, K. W. Rothschild, "Price Theory and Oligopoly," *Economic Journal,* September, 1947, p. 299.

for all sorts of shysters, mountebanks, and charlatans. Here the predatory of every age have looked for their victims among the innocent, the credulous, and the gullible. It is no accident that ancient law pronounced the maxim "Caveat emptor." But the prevalence of wooden nickels, counterfeit money, and bouncing checks is evidence that the blithe deceiver is as likely to be found among the buyers as among the sellers and that the seller must likewise beware. Suspicion, distrust, and misunderstanding have always been part and parcel of a free market.

The techniques of contact which tend to break down the barriers of distrust and suspicion between the parties are fairly well known to businessmen, although they are seldom formulated as such. First, they must talk the same language. This means not only that the words and phrases used must mean the same thing to each of them but also that they must have a clear understanding of all the qualities and characteristics of the goods traded in, as well as of the business techniques which they employ. Precision in communication is the major factor in agreement. Second, each must have confidence in the other's integrity and intentions. This involves not only common honesty at the level of business ethics prevailing but also a willingness on the part of each party to forego his own advantage and to take the consequences if the transaction happens to work out adversly to his interest. Third, each must have an intimate understanding of the other's background and status in the trade, so as to be able to interpret his point of view objectively and to see the opposite party's advantages and disadvantages in any undertaking. Fourth, and finally, each party must be able to make an intelligent evaluation of the entire situation, in order to see clearly the consequences of the action taken. When all these elements are favorable, it becomes possible to some extent to overcome suspicion and distrust and to build in their place the basis for trading.[16]

But even with the techniques of selling and buying known to both buyer and seller, the barrier between the two parties still remains, so long as each is thinking in the short-run perspective of a single transaction. The situation is entirely changed, however, when the attention of the parties is focused on the long-run welfare of their respective businesses and they are led to think in terms of a continuous business relationship between them. It then becomes clear that each is dependent upon the other and that cooperation between them is to their mutual advantage. The merchant buyer finds that his interest is, in part, the finding of goods for his customers and in part the distribution of the goods of his source. The manufacturer finds that it is to his interest to supply continuously the proper goods to his customers and not simply to

[16] "The transfer of ownership, the essential element in the selling function, involves the whole field of human relations and the whole field of human behavior; it concerns not only commodities and services but the tangible results of human acts and reactions. Salesmen deal with infinite variations of the human mind" (Harry R. Tosdal, *The Principles of Personal Selling* [New York : McGraw-Hill Book Co., Inc., 1926], p. 2).

liquidate his immediate stocks. The two thus become members of a team to supply consumers with the goods they want at prices they are willing to pay and to find a market for the goods which capital and labor have produced.

The development of the attitude of mutual interdependence between buyers and sellers throughout the chain of contacts requires that someone assume the leadership in the cooperative effort. Although this leadership is sometimes taken by the merchant at the retail end of the channel, as is the case when a chain store sponsors a brand, it is more usual for it to be assumed by the producer, whose competitive position is otherwise somewhat insecure, since it rests upon the whims of relatively few customers (merchants) who have numerous alternative sources. Because of this insecurity, the manufacturer whose product is acceptable to the public seeks a broader base for the intrenchment of his product among the vastly more numerous ultimate consumers who have an intimate knowledge of the product in use.[17] This leadership acts as a catalyst in welding together the chain of contacts between the producer and the consumer. It is the function of the leader of such a chain not only to prevent friction between the various links and to keep them in balance but also to furnish the incentive and drive which will keep them operating effectively.

As the chain of contacts between the producer and the consumer develops, it tends to become institutionalized, that is to say, each agency tends to look upon itself less as an isolated and independent unit in the business world and more as a part of a greater entity which has an *esprit de corps* of its own. Thus it becomes the interest of each agency to preserve, protect, and defend every other element in the chain, in order to maintain the structure as a whole and thus provide continuously profitable business for all. The chain of contacts, once it has become established, provides the mechanism for a continuous two-way line of communication between the producer and the consumer and a linkage of their interests.

The Contactual Structure of Marketing

The producing firm of any particular line of products can be visualized as a leader of a large number of chains of contacts, fanning out in different directions to reach his ultimate market. Marketing authorities tend to use the term "channel" or "channel group" to describe this system of contactual relationships, while businessmen call it their "distribution setup" or "organization." Perhaps a better term is that used by Lundburg, who calls it a "constellation."[18] In a sense, all the different chains of contacts which a producer uses to distribute his product are linked together through the leader, who attempts to develop a community of interest among his chains of con-

[17] For this reason he usually develops a brand and then attempts to secure brand insistence on the part of consumers through advertising.

[18] G. A. Lundburg, *Marketing and Social Organization* (Philadelphia : Curtis Publishing Co., 1945), p. 12.

tacts and among the individual units (firms) which compose them. Thus the whole constellation or setup becomes a single working unit to distribute his goods.[19]

The term "structure of marketing" is usually applied to the network of trade channels through which ownership of products moves from production to consumption. "A trade channel . . . consists of middlemen or other buyers or sellers involved in the process of moving a good from producer to consumer."[20] Since both these definitions treat only of the flow of products and leave out of consideration the fact that many contacts are made and maintained without any transactions taking place between the parties, it is necessary to qualify the term by calling it the "contactual structure."[21] It must be kept in mind that in this study our objective is to emphasize the relationships themselves and the part they play in effecting adjustments between goods which are produced and the people who are to use them. Actual physical distribution, while related, is subject to discussion as a separate function.

Chart 1 is a schematic device to indicate two types of contactual marketing structure—one an orthodox nonintegrated type and the other an integrated type. Needless to say, this representation is oversimplified not only because there are other types of structure but also because they leave out the so-called "functional middlemen." In this chart each agency (including the source and the consumer) is represented by a different symbol, and the contacts between the agencies are represented by arrows pointing from their respective initiating agency because the initiative may come from either the buyer or the seller. It will be noted that some of the arrows make full connection between the agencies, to indicate that the contacts have ripened into transactions, whereas others fall short of connecting, to indicate that, although contact is made, no transactions have resulted.

Under the orthodox or nonintegrated contactual structure a manufacturer

[19] "As an example [of many cooperative entities in economic life], one may take the concept 'channel,' the combination and sequence of agencies that participate in bringing a good into existence and moving it into consumption.

"Only at the ultimate point of consumption does competition come into focus, and the true nature of this competition is as follows: first, that it takes place between entire channels rather than between individual entities along the channel; and second, that in each line of flow someone must take the responsibility for guiding the competition of the entire channel (for trade-marked goods, this is usually the owner of the brand)" (Reavis Cox, "Quantity Limits and the Theory of Economic Opportunity," in Cox and Alderson, *op. cit.*, pp. 238-39).

[20] Charles F. Phillips and Delbert J. Duncan, *Marketing Principles and Methods* (Chicago: Richard D. Irwin, Inc., 1938), p. 37.

[21] Breyer, in his exhaustive study of channel and channel group costing, has differentiated a large number of channel types, none of which exactly fits the concept here defined (see Ralph F. Breyer, *Quantitative Systemic Analysis and Control: Study No. 1, Channel and Channel Group Costing* (Philadelphia: University of Pennsylvania. 1941).

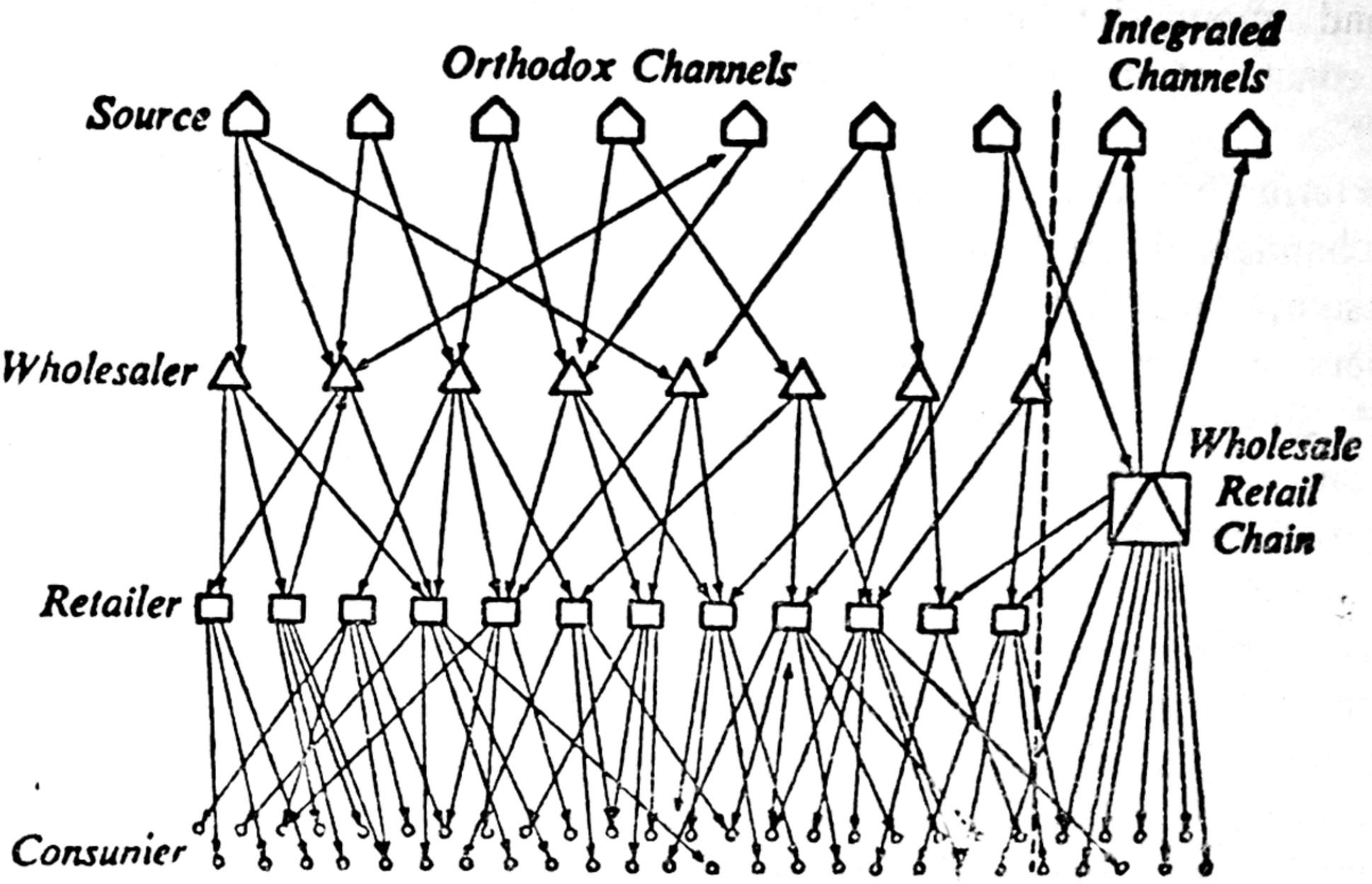


Chart 1. A Schematic Representation of the Contactual Marketing Structures, Showing Orthodox and Integrated Channels.

must maintain contacts with his sources of material and with his wholesalers; the wholesalers must maintain contact with their sources (manufacturers) and with their customers (retailers); and the retailers must maintain contact with sources (wholesalers) and their customers (consumers). The use of these contacts in the sense of culminating transactions is usually intermittent, with frequencies varying from zero to many hundreds a year, depending principally upon the nature of the product and the volume of business done. In any case it is usually necessary that a firm maintain many contacts in addition to those which actually produce business. The maintenance of such contacts is not valueless, even though no transactions result from them, for through them each of the parties gains information and knowledge necessary to operate his business intelligently.[22]

In the case of the integrated agency the chart shows the chain store to which or from which all the contacts lead. It is noteworthy, however, that integrated institutions are seldom closed systems; that is to say, some of the units of the system buy from agencies outside the system, and other units sell to outside agencies. The reason for this, of course, is that the system's sources can seldom produce just enough for their outlets—they either produce

[22] Braithwaite and Dobbs indicate that the chief service of contacts is in the communication of information from one agency to another. The present author feels that this is too narrow a conception and that the affinity which grows up between the parties is far more important (see Dorothea Braithwaite and S. P. Dobbs, *The Distribution of Consumers Goods* [London: Routledge, 1932]).

more and have to sell outside the system or do not produce enough and have to go outside for other sources.[23]

The diagram as a whole represents a vast network of contactual relationships through which the goods that producers make and the goods that the consumers want are adjusted to each other or through which producers themselves are adjusted to consumers. Essentially, this adjustment takes place by means of selection from many alternatives.[24] Just as in a telephone switchboard the impulse of the signal moves to a selector, which makes contact with the proper reactor, which rings the proper bell or, as in the case of the response mechanism of the human body, in which the efferent neurons seek out and make contact with the proper efferent neurons, so in the contactual structure consumers select the contact at the retail level which suits their particular and peculiar situation. The retailers, in turn, then the wholesalers, and, finally, the producers do the same thing. The action and reaction described may also operate in reverse order, in which the source selects its outlets and these outlets select their customers.

It must not be assumed from the graphic presentation of the contactual structure that it represents a static system. Quite the contrary, it is constantly changing. "There is a constant dissolution of old channels and creation of new ones."[25] If the buyer is dissatisfied with his old source or if he likes another one better, he shifts his business. If the seller wishes to expand his outlets he may either solicit firms which have formerly patronized other sellers or promote the establishment of new firms to handle his product.

If it is assumed that the major task of marketing is to adjust goods produced to the consumers' needs and to adjust consumers' needs to the goods produced, it follows that an ideal contactual structure would provide, on the one hand, contact of the consumer with all the producers he wished to patronize and, on the other, of the producer with all the consumers he desired to serve. Theoretically, it is possible in a free economy for producers to deal directly with all the consumers they wish to deal with, and vice versa. It would be possible, for instance, for a soap manufacturer to provide enough contacts to reach every individual who might need soap. But obviously this would be impossible from a practical standpoint, because the number of contacts which can be provided is limited by the economic cost of making them.[26]

[23] "Few if any vertically integrated firms are completely balanced. It is a safe rule that any given stage is producing somewhat more or less than is needed by the rest of the enterprise. Unless capacity is to be wasted, therefore, practically every integrated firm is continually buying from and selling to other firms, and often to its competitors (M. A. Adelman, "Integration and Antitrust Policy," *Harvard Law Review*, LXIII [1949], p. 44.)

[24] "The essence of the cultural process is selectivity" (Clyde Kluckhohn, *Mirror for Man* [New York: Whittlesey House, 1949], p. 26).

[25] Breyer, *Quantitative Systemic Analysis and Control*, p. 27.

[26] "Where the market is not perfect, there is a capital cost of transferring customers from one firm to another. The more imperfect the market, the higher will this capital

Nevertheless, our present system does provide a near-approximation to the ideal. Through a division of labor by successive stages, the consumer is given a multiple choice of retailers; and retailers have a choice of wholesalers, as have wholesalers of producers or other sources. Or, to look at the structure from the other end, the manufacturer has a choice of wholesalers, who, in turn, have a choice of retailers, and retailers of final consumers. The structure thus provides not only a wide range of choice of products but also, and equally important, a wide range of sources from which the products may be procured.

Stability and Fluidity

The contactual structure of marketing is in the nature of what sociologists call an "informal organization." It is held together by no formal organization or permanent agreement or arrangement of any kind. In fact, it is a structure only in the sense that its various constituent business units (firms) are interdependent and cooperate toward the common end of marketing goods. Actually, the only force which binds these units together is the loose, informal, and intangible relationships which businessmen call "contacts." The dealings which take place are individual transactions undertaken from day to day as the parties see fit. Beyond the particular transaction there are usually no formal commitments to continue to carry on business. However, these contactual relationships, when congealed and coagulated by continuous business trading, constitute a cohesive force which binds them together, and the successful contacts from level to level between producer and consumer together form a path through which information flows and attitudes are molded into adjustments.[37]

The nature of the contactual structure of marketing gives to it two seemingly incompatible characteristics. The structure has both a high degree of flexibility and a high degree of stability. The fact that any unit of the structure deals with its sources and its customers on a transaction basis, which is strictly temporary and immediate, and can change from one contact to another without notice and without embarrassment lends a fluidity to business which could not otherwise be attained. Because of this fluidity, any business firm is enabled to shift its purchases from one source to another or its sales from one customer to another without formal restriction. This is but another way of saying that a modern business firm is constantly adjusting its contacts to

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cost be and the more of the customers of a firm it is sought to transfer, the higher the cost is likely to be for each additional customer, as we proceed from the less firmly attached customers to the more firmly attached customers" (E. A. G. Robinson, *The Structure of Competitive Industry* [London: Nisbit & Co., 1931], p. 120).

[37] "When customers have learned through experiences that it [a firm] is worthy of confidence in fulfilling its promises and that its product is trustworthy, that firm can use 'reliability of seller' as a patronage motive in effective sales.... Continuous business relationships growing out of such patronage motives often tend to establish durable buying habits and constitute goodwill for the seller" (Melvin T. Copeland, *The Principles of Merchandising* [*New* York: A. W. Shaw Co., 1924], p. 208).

its own changing character, and, since its character is, in turn, dependent upon its total contacts, it is in a large sense adjusting itself to the fluid character of business itself. Thus the contactual relationships which make up the character of a firm tend constantly to adjust this character, on the one hand, to the requirements of the consumers and, on the other, to the requirements of the practical business situation of the hour.

However, in spite of the fluid structure of marketing under a free-enterprise system, there is a consistency in it—an element which enables it to persist, to grow, and to accumulate strength as it becomes older. This element consists of the continuity of contacts—the mutual affinity that grows up between two persons or firms in business which causes them to prefer to deal with each other rather than with someone else. The strength of this preference tends to accumulate with each transaction successfully completed. Almost any well-established firm can name dozens or hundreds of customers with whom it has dealt for years or even generations.[28]

The marketing contacts of a firm at any given time are likely to vary in strength all the way from those which are so tenaciously attached that they would not deal with a competitor unless powerful incentives were offered, through those which are completely indifferent as to whether they deal with this firm or some other, to those with such a negative attitude that they will deal elsewhere unless strong inducements are offered. For the well-established firm there is usually, as mentioned above, a hard core of contacts with strong preferences favoring it. These are the continuous contacts built up over the years on whose business the firm can usually count for support. They keep in close touch with one another, cooperate actively, and generally account for a major portion of the firm's sales.[29] In addition to these contacts (customers), there is a number of intermittent or casual contacts, which individually cannot be depended upon to buy or sell consistently and regularly but which, taken together, produce a sufficient amount of business to make their patronage essential. It is this backlog of intermittent but potentially regular customers with which any successful company must keep in contact in order to prevent its business from declining by natural attrition.[30]

[28] The word "customer," according to Webster, means "one who regularly or repeatedly deals in business with a tradesman or business house."

[29] "The bulk of goods is sold to purchasers who have purchased previously from the same seller, and who have previously purchased the same or similar goods.... The repeat sale and the type of selling which must be carried on in order that the cost of distribution as a whole be kept within reasonable limits are much more important than one time sales when the volume of total business transacted is considered" (Tosdal, *Principles of Personal Selling*, p. 7).

[30] "The footing of a firm is generally marked by a gradient running down from that part of the market on which it has the strongest hold to those customers who would just as soon buy from one of the firm's competitors. If the firm's position were pictured as a circle on a chart, it might show a dense core at the center and gradually shade off toward the fringe" (Wroe Alderson, "Survival and Adjustment in Behavior Systems," in Cox and Alderson, *op. cit., p.* 76).

It is clear that the cost of dealing with continuous contacts is far less than that of dealing with casual contacts. In dealing with regular customers it can be assumed that the parties already know each other. Neither party has to investigate the other. The transaction is more easily undertaken, and there is less inclination to haggle about terms. It is perhaps no exaggeration to say that, if a firm could confine its entire selling activities to regular and consistent customers, it could usually reduce its cost of marketing by from 10 to 20 per cent. On the other hand, the cost of making contact with the casual customer (or source) is usually high. Although the amount of business which any one selling firm can get from such contacts over a period is generally small, it requires as much or more time and effort to maintain them than it does to maintain regular customers. Since the dollar sales per contact in the case of intermittent customers is almost bound to be lower, the cost of making the contact as a percentage of sales is high.

Assuming that some type of cost-accounting system could be devised to show the differential cost between handling continuous contacts and casual contacts, it might well be argued that, since a firm can handle the continuous contacts at a lower cost, it should grant these continuous customers a discount commensurate with its total saving.[31] Undoubtedly many firms do give a "break" to their regular customer, either in informal price arrangements or in cumulative quantity discounts. However, to charge higher prices to non-regular customers as a policy would be quite dangerous. The very fact that these casual customers do not buy consistently and regularly from this particular firm indicates that they probably also are in regular contact with numerous other sources and that it is not a matter of much importance which of the several sources they will patronize. Thus these firms may be regarded as being on the competitive margin and are in a strong strategic position to play one firm against another and thus force any firm that sells to them to give them the best possible terms.

The continuous dealing with certain customers lends a stability to the structure of contacts, while the dealing with casual customers or sources give it flexibility and forms the basis for the dynamic character of business. If a firm should limit its contacts to its regular customers, it would find itself subject to many of the vicissitudes of each and every customer and to accepting a risk on operations over which it has no control. The failure or interruption of any one contact, however, if there are other potentially regular customers

[31] It was the recognition of the high costs of continually changing contacts probably more than any other factor which led wholesalers to develop voluntary chains. By tying their customers to themselves with binding contracts, the wholesalers were able to secure continuous trading by a large body of customers, some of whom might otherwise have dealt only casually with them. The value of such continuous trading was such that the wholesale sponsor was able to "kick back" part of the profits accruing from the change, as an inducement to customers to enter the contracts. The practice of giving cumulative quantity discounts also represents an attempt to find a method of assuring continuous trade.

available to take its place, is likely to have but little effect except in so far as it increases the effort necessary to change certain casual customers into regular customers.

It has been pointed out that, in so far as contacts are used continuously and uninterruptedly, they tend to reduce distribution costs. As long as true competition exists, this reduction is bound to be passed on to consumers in general. But this lower cost is often offset by the higher cost of serving the new and casual customers, and the net effect may thus be regarded as negligible. In other words, the final consumer must pay for the flexibility in the system, but he gets a discount from its stability.

The Economics of Contactual Relationships

The highly fluid character of early business, with its small units operating under buyer initiative, led Adam Smith and other classical economists to a preoccupation with the quantity-price relationship in every transaction undertaken.[32] They assumed, perhaps correctly at that time, that the profit motive dominated practically every trade and that it was a matter of complete indifference who the parties to the trade were or what relationship existed between them.[33] A certain amount of this "rabble hypothesis" still remains in much of our economic thinking at the present time.[34] When questions are raised about matters such as contactual relationships, they are usually brushed off with the use of the term "other things being equal," which makes the logic of their argument simple and incontrovertible but still leaves untouched most of the human elements in trade.

Lately economists of the modern school, however, have greatly refined and expanded economic theory in the direction of exploring what they term "monopolistic competition" or "imperfect competition." Thus any factor which tends to prevent the purely competitive economic factors from working out to the

[32] "The market price of every particular commodity is regulated by the proportion between the quantity which is actually brought to the market, and the demand of those who are willing to pay the natural price of the commodity, or the whole value of the rent, labor and profit, which must be paid in order to bring it thither.... The price of monopoly is for every occasion the highest price which can be got" (Adam Smith, *op. cit.*, pp. 49, 54).

[33] "The traditional assumption of perfect competition ... depends, in the first place, upon the existence of such a large number of producers that a change in the output of any one of them has a negligible effect upon the output of the commodity as a whole.... But in actual markets the customer takes into account a great deal besides the prices at which rival producers offer him their goods.... He has a number of good reasons for preferring one seller to another" (Joan Robinson, *The Economics of Imperfect Competition* [London : Macmillan & Co., Ltd., 1933], p. 88).

[34] The term "rabble hypothesis" is used by Professor Elton Mayo to describe "a sand heap of individuals all equal and undifferentiated," which he indicates is the basic but unrealistic premise of economic theory (Elton Mayo, *The Social Problems of Industrial Civilization* [Boston : Harvard Graduate School of Business Administration, 1945], chap. ii),

logical conclusion of the lowest competitive price is regarded as a monopolistic element indicating an imperfection in competition. Whenever the product of any seller is "differentiated," its market becomes to some extent monopolistic, for it enables him to have some control over his market and makes it possible for him to secure (or at least to expect) an excess of profits over what they would be under pure competition. Although this theory has been developed chiefly to explain the effects of advertising and brand preferences, its exponents have usually lumped together with these the concept of "sticky" contactual relationships. Thus Chamberlin says: "Anything which makes buyers prefer one seller to another, be it personality, reputation, convenient location or the tone of his shop, differentiates the thing purchased to that degree, for what is bought is really a bundle of utilities of which these things are a part."[35] Established contactual relationships thus become one of many elements of product differentiation. The effect of this differentiation is that it allows the seller to increase his sales at a given price, maintain his sales at a higher price, or increase his sales at a higher price.

Following this analysis, Chamberlin and most of those who have accepted his line of reasoning have included the costs of developing and maintaining contactual relations in the category of selling costs, and "selling costs are defined as costs incurred in order to alter the position or shape of the demand curve for the product."[36] Thus he explains that "to the extent that he [the businessman] devotes his time and energies to build up his 'connections,' they are costs of selling."[37] In all this it is apparent that the possibility that it is just as important for the buyer to have "connections" with his sources as it is for sellers to have connections with their customers is either overlooked or ignored.[38] If the seller did not maintain contacts, the buyer would necessarily have to do so.

Moreover, there appears to be a significant difference in the purpose of maintaining contacts from that of advertising (selling). The purpose of advertising is to sell more goods or to sell them at a higher price (or both) than could be sold without it, while the continued dealing of a firm with its established connections (either buyers or sellers) may be due to "the inertia

[35] Edward Chamberlin, *The Theory of Monopolistic Competition* (Cambridge: Harvard University Press, 1933), p. 8; see also p. 69.

[36] *Ibid.*, p. 117.

[37] *Ibid.*, p. 124.

[38] The possibility also of buyers advertising and thus increasing supply is likewise overlooked in the Chamberlin analysis. Presumably in that case the cost of advertising would be a cost of production, for "cost of production includes all expenses which must be met in order to provide the commodity or service, transport it to the buyer, and put it into his hands ready to satisfy his wants," and "there are included in the manufacturer's price to the wholesaler charges to cover the expenses of building up his 'connections' and securing outlets, as well as similar charges of other producers who have sold him raw materials and supplies, and whose selling expenses he has recouped" (*Ibid.*, pp. 123-24).

or unwillingness of either party to make the effort necessary to substitute new customers for old ones," as Professor Kahn has suggested, or it may be based on the fact that it is more economical to deal with old customers than with new ones.[39] The continuous dealing with the same contacts reduces not only the effort necessary to make transactions but also the risks either party takes, since each party already knows the other and can fairly accurately forecast what he is likely to do under a given set of circumstances.

The cost of developing and maintaining contacts is somewhat more in the nature of the cost of a fixed asset than is the cost of advertising. Although the full effect of an outlay for advertising may not always be immediately reflected in sales, it is likely to diminish rapidly after the advertising has been discontinued. In the building of contacts, on the other hand, the costly element is involved primarily in the first transaction or previous to it (this is the cost of getting the foot in the door, so to speak) and declines successively with each transaction after that. Consequently, a business with a large number of well-established contacts is likely to have lower costs of distribution than one which has fewer such contacts. The general principle is well recognized in the law, where the purchaser of a company with well-established connections is allowed to capitalize them as goodwill.[40]

If it is assumed that a number of firms, all having large numbers of well-established connections, are otherwise in competition with one another, it can well be argued that the price resulting from such competition will be lower than it would be if these firms lacked such established contacts—a generalization which follows from the fact that they have lower costs. The competitive element that is presumed to be lost through the propensity of firms to discriminate in favor of those buyers and sellers with whom they have had continuous contact may well be offset by the increased competition among groups of firms joined vertically in series from producer to consumer. This is but another way of saying that the competition takes place among channels rather than among firms horizontally considered.[41]

Despite the differences in costs and in the effect between the maintenance of proper contacts and the use of advertising mentioned above, the results of

[39] Professor Kahn has intimated that the continuous dealings between two parties are due to inertia and unwillingness to make the effort necessary to make new sales contacts, and he attempts to prove that these motives are irrational when the consumer experiences no preference for the product of the old firm. However, he ignores the fact that the increased effort necessary to make the change is in itself an entirely rational basis for preferring old customers (R. F. Kahn, "Some Notes on Ideal Output," *Economic Journal,* March, 1935).

[40] The Supreme Court of the United States has defined goodwill as follows: "Goodwill is the disposition of a pleased customer to return to a place where he has been well-treated." Goodwill is usually measured by the unusual profits which accrue to a firm because of the buyers who habitually patronize it. It is the value, crudely capitalized, which businessmen put upon the contactual relationships which have been built up.

[41] See Cox, *op. cit.*

such actions appear similar when placed in terms of supply and demand curves. Effective contactual relationships tend to move the demand curve upward and to the right, and they do not affect supply in terms of goods offered for sale. It is only when we consider these changes in a larger frame of reference that the implications of the differences may be seen. Thus who can say that the use of proper contacts does not yield the consumer an income, psychic and subtle though it be, when he is enabled to choose between different sellers? And who can say that the use of proper contacts does not add to the supply, not in the sense of the total stock offered for sale, but in the more realistic sense of making goods available for sale by those with whom others wish to deal?

However, if the real problem is not how prices behave but rather how people behave under certain circumstances, it is conceivable that some other approach than price analysis may be equally valid and equally constructive in understanding the process. In the last few years a number of writers with extensive business backgrounds have pointed out that, as modern business units have become larger, older and more permanent, they are more and more motivated by the idea of security and permanence of the firm as an institution than by the amassing of greater profits.[42] It is, of course, conceded that profits are necessary for permanence, but situations often arise in which profits, both immediate and long-run, have to be foregone and decisions be based on what is best for the long-run stability of the firm. It is argued that the building of the prestige of a firm in the community and even its social justification have become major objectives in policy-making.

Whether or not there has been a fundamental change in the motivation of business, there is ample evidence to indicate a change in emphasis from pure price competition to competition based largely on what the businessman calls "service"; and the primary argument for this change is usually that it promotes the long-run prestige and maintains the status of the firms in the community. In other words, the trend in emphasis appears to be toward cooperation in sustaining the marketing structure rather than toward more vigorous interfirm price competition. The tendency toward integration among large firms and, where this is not possible, the tendency to distribute through controlled outlets, such as exclusive agencies and contract sales agreements, are evidence of attempts to minimize price competition among the larger firms.

Smaller firms have likewise been active in their efforts to avoid price competition. Being weak economically, they have resorted to politics, where their very numbers give them enormous strength. They have put pressure on legislatures for protective laws, such as price maintenance, unfair practices acts

[42] Notable among these are Oswald Knauth and Chester Barnard, e.g., Oswald Knauth, *Managerial Enterprise* (New York : W. W. Norton & Co., 1948); Chester I. Barnard, *The Functions of the Executive* (Cambridge: Harvard University Press, 1947), and *Organization and Management* (1948).

anti-trade discrimination acts, and many others. Practices such as price-lining and guaranties against price decline are likewise evidences of attempts to get away from pure price competition.

If it is assumed that the desire for permanence and stability of its institutions have become the major objectives in our economy, the problem of developing and maintaining continuous contacts takes on great significance. Business cannot expect to shift its contacts from day to day and still attain the permanence necessary for an institution. It is clear that few large modern businesses could exist wholly upon casual contacts entered into for immediate profit with no thought of future business. Although business must continue fluid, it is essential that fluidity be in the form of a stiff matrix of relationships. If this argument is sound, then it follows that the whole concept of business regulation needs to be reviewed, and possibly modified, to give consideration to this changing point of view.

Summary and Conclusion

It is the thesis of this article that the overall task of marketing is to make the adjustment between what the consumer conceives as his needs and what the producer finds practical to produce. One of the major functions involved in accomplishing this task is that of making contacts between those who want goods and those who produce them. These contacts between buyers and sellers at each step in the process from original sources of raw material to the ultimate consumers form the basis of marketing channels. These channels provide a vast network of contacts through which sources are enabled to discover suitable customers for their output and consumers are enabled to find suitable sources to fulfil their needs. In each case adjustments take place by the process of free selection of buyers by sellers and free selection of sellers by buyers.

The process of developing new contacts is one of the most costly elements of marketing. Because of this and because of a natural inclination of businessmen to deal with those whom they have dealt with before, the contactual relationships tend to become firmly established in what businessmen call "connections." This tendency to deal with established contacts gives to the structure a stability and consistency which decrease risks and reduce the costs of distribution. Without such established connections the entire process would be chaotic and unstable.

The thesis briefly outlined here must be considered in the nature of a hypothesis, not only because economists and business writers have given but scant attention to the phenomena, but also because much of the argument presented is based upon casual observation and conjecture. Before such a thesis can be accepted, the assumptions used must be verified by empirical evidence and the conclusions more precisely drawn. How strong are the attachments between buyers and sellers in a competitive market? How, if at all, can these attachments be measured? How many contacts are

necessary before a firm can be considered established? What is the relationship between the number and strength of contacts and the success of a firm? These are questions which must be answered before a full understanding of the function is possible.

Even when the questions enumerated have been answered, there still remains the problem of the implications involved in this line of reasoning. Does a tendency toward continuous trading contacts affect the behavior of a firm through the business cycle? Does such trading make the economy less resilient, less flexible? Does such trading reduce competition? Does this type of trading lessen the degree of choice available to consumers? Would a system of trading in which price alone determined the choice of contacts be more desirable? The investigation of questions such as these might well lead to a considerable change in our conception of free markets.

34 / Designing the Distribution System

THOMAS L. BERG

A distribution model is needed if a firm is to be effective in its handling of problems which relate to channels of distribution. This article shows how through the use of organization theory an effective distribution model can be designed. Focus is placed on the contactual aspects of distribution and not the physical distribution components of the problem.

INTRODUCTION

Marketing management suffers from schizophrenia. Students of the firm are encouraging corporate psychoses identified by the classic syndrome : (1) loss of contact with company environments and (2) disintegration of the whole-properties of corporate organisms. The disease is amenable to treatment. This study is intended as a partial prescription, although it is not to be construed as any sort of a panacea.

To see the nature and origin of the malady in more concrete terms, it is necessary to understand how the total company is linked to its environment.

The Firm as an Operating System

Any manufacturing enterprise can be viewed as an input-output system consisting of three parts: (1) the *internal organization* of the firm, (2) the company *environment*, and (3) various kinds of *external organizations* serving to link the internal organization with its economic milieu for the inter-organizational transmission and processing of inputs and outputs.

Connections with suppliers, networks of financial intermediaries, and trade channels are examples of external organizations. Although they may not appear on company charts or in manuals, these should be regarded as logical extensions to the internal organization of the firm. Internal and external organizations are similar in that both deal with economic functions performed by interdependent human agents requiring motivation and coordination through communication. Both involve continuous personal relationships, routinized tasks, and stable expectations of reciprocal performance.

Failure to pay due respect to the systemic nature of the enterprise and to the fundamental similarities between internal and external organizations has resulted in schizoid thinking in management and marketing. Management

SOURCE : From William D. Stevens (ed.), *The Social Responsibilities of Marketing* (Chicago : American Marketing Association, 1962), pp. 481-490. Thomas L. Berg : Assistant Professor of Marketing, Columbia University.

theorists have been preoccupied with problems of *internal organization* and have failed to show how the firm is connected to its environment via externally organized linkages. An unnatural cleavage between internal and external aspects of structure has developed in the management literature.

> Administrative and organizational theories seem to have concentrated upon the administration of single organizations and have not specifically recognized that a system of separate organizations requires administration also. It is suggested... that that body of theory and research which contributes to an understanding of the administrative process in single organizations is pertinent to the administration of primary and secondary organizations.[1]

Over the years, a handful of people have come to suggest that the full development of organization theory awaits the day when management theorists explicitly bring environmental entities and external organizations into their analyses. The sire of this thought appears to be Chester Barnard.

> The conception of organization at which I arrived in writing *The Functions of the Executive* was that of an integrated aggregate of actions and interactions having a continuity in time. Thus I rejected the concept of organization as comprising a rather definite group of people whose behavior is coordinated with reference to some explicit goal or goals. On the contrary, I included in organization the actions of investors, suppliers and customers or clients. This the material of organization is personal services, i.e., actions contributing to its purposes.[2]

Barnard's words have apparently fallen on deaf ears. Administrative theorists are concentrating more on refining theories of internal organization and less on extending and testing their notions in external realms. But the student of marketing is equally responsible for the observable symptoms of schizophrenia.

In contrast to the management theorists' focus on internal aspects of business systems, marketers have been preoccupied with environmental forces and external trading channels without clarifying how these tie in to problems of internal administration and organization. Marketing academicians seem to appreciate the need of some model for building and operating trade channels, but few have recognized the potential role of organization theory in its design. Businessmen in marketing seem to know intuitively that channel-building is an organizational problem, although few acknowledge the need for a model to guide them in their organizing.

As a result, trends in management and marketing thinking become more and more divergent. To bring about some convergence, and to assure that both disciplines reverse the trend to schizophrenia, it is necessary to (a) persuade the internally-oriented administrative theorists to consider the

[1] Valentine F. Ridgway, "Administration of Manufacturer-Dealer Systems," *Administrative Science Quarterly*, Vol. 1, March, 1957, pp. 466-67.

[2] Chester I. Barnard, *Organization and Management*, Cambridge, Mass., Harvard University Press, 1948, pp. 112-13.

application of their ideas to external-environmental entities and (b) convince marketers to draw more heavily on internally-oriented theories for insights into building and operating external marketing systems. This study takes the distributive subsystem of the firm as an example of the applicability of organization theory to external systems.

The Distribution Subsystem

The term "trade channel" is often reserved to the network of external entities in a company's distribution setup. In this study, the term "distribution system" embraces all elements of the internal-external-environmental triad. Corporate marketing staffs and field salesforces are elements of internal organization, segments of ultimate consumer markets are the key environmental sectors, and retail merchants and other trade intermediaries make up the external organization. This study attempts to show that useful models of distribution systems can be designed with the help of organization theory.

Today, distribution systems are developed more by intuition than design. In part, this accounts for widespread cases of ineffective performance of trade management functions. Actual channel formation, budgeting for distribution, the setting of distributor's margins, the appraisal of dealer performance and similar management tasks could be performed more effectively if marketing managers had distributive models to guide them in the day-to-day administration of trading functions and trading relationships.

For many reasons, the basic idea that distribution models might be designed by drawing upon organization theory has not been widely recognized nor warmly embraced. The notion is still a relatively new one accepted by a fairly small group of people. Those who have heard of the idea often seem not to have grasped its full significance. The understanding of some has been barred by the persistence of traditional perspectives on trade channels. Those congenial to the basic idea may not know how to push it to the level of operational reality. Lack of know-how simply prevents others from seeing that the approach is feasible. Those that agree to its feasibility may be reluctant to devote the time, energy, and cash to what inevitably is a difficult design job. Some apparently see the feasibility of the notion but do not regard the approach as useful on pragmatic grounds. Still others may object on philosophical bases, for when organization theory is pushed far enough into market relationships difficult questions concerning prevailing concepts of competition are bound to arise.

The purpose of this study is simply to overcome a few of these barriers to acceptance of the fundamental proposition. The chief test applied in the study is the test of feasibility. As a purely technical matter, organization theory *can* be meaningfully applied to external distribution systems, and not only to direct manufacturer-dealer organizations. In the process of demons-

trating feasibility, insights into the more intractable pragmatic and philosophical issues are also revealed.

NATURE OF THE STUDY

This study focuses on the contactual, or trading, aspects of distribution as opposed to the logistics, or physical distribution, dimensions of the problem. It is nonsituational, i.e., the study is not restricted in scope to a particular product, institution, or historical period. It is addressed to marketers in manufacturing firms, although the ideas may also be of interest to others.

Few businessmen can yet verbalize their opinions and attitudes toward the application of organization theory to the design of distributive models. Therefore, personal interviews could not be used as a sole method of research. Information had to be gleaned piecemeal from a variety of sources—including protracted informal interviews with some 150 marketing executives and teachers, widely scattered secondary sources, and pure cogitation.

In effect, the study attempts to present elements of prudent practice within the unifying framework of organization theory. It does not describe any approach taken by a known manufacturer.

Elements in the Design Process

The process of designing a distributive model for a producer is envisaged as unfolding in five interrelated stages: (1) factoring the companywide strategic situation, (2) converting key factors into functional prerequisites for the system, (3) grouping individual tasks into work units, (4) allocating tasks to appropriate functionaries, and (5) designing a structure of relationships to provide loci of distributive authority and responsibility within the work structure erected in the previous stages.

In the study, separate chapters are devoted to each of these elements and an integrating case is used to help synthesize the materials as the process unfolds.

Step One—Factoring the Strategic Situation. Early in the research, comparative studies of existing systems were undertaken with the aim of accounting for the sometimes marked interfirm differences in distribution practices observable in many industries. Those variables were then abstracted which seemed to serve as decision-making constraints for a wide variety of the firms studied. These fell into two broad classes: (*a*) the nature and interests of various environmental entities as interpreted by top management, and (*b*) factors relating to the company's resource base. Environmental entities and company resources are related through broad marketing strategy to the functional necessities and structural features of distribution systems. Environmental entities include stockholders, employees and their unions, supplier interests, trade associations, governments, competitors, and

ultimate consumers. The resource base refers especially to finances and manpower but also includes material, spatial, temporal, and other resources. In the study, these factors are arranged and presented in meaningful sequence, and illustrations are provided to suggest the possible impact of each variable on channel function or structure. The goal was to help the manager conduct a comprehensive position audit for his own particular firm in its unique competitive market setting in order to isolate key bits of information which might provide clues as to appropriate distributive structure in the specific case. The study thus offers a method of attack for factoring firm's strategic situation as well as illustrating the potentialities for interfirm differences in distribution systems.

Step Two—Converting Key Factors into Activity Requirements. The research revealed that surprisingly few producers can meaningfully reply to the question, "What do you want your distribution setup to do for you?" It may be suggested here that until managers can verbalize the nature of the *work* they want performed by distribution systems, there can be little hope for real application of organization theory to trading networks.

Yet, the study offers guides for developing the inferential value of key factors uncovered in step one in sufficient detail to permit the generation of a fairly clear-cut list of activities to be performed by the yet-to-be-designed distribution system. At this point in the study, the integrating case is also introduced to illustrate how one firm actually posited its channel tasks in a simplified situation.

Step Three—Grouping Tasks into Work Units. This step involves a straightforward adaptation of organization theory, which alternatively depicts the process as one of a *division of labor* or of *grouping* tasks together in a meaningful fashion. No real problems of applying organization theory were encountered. However, there is clear evidence that the channel analyst might profit from taking this step very seriously. Traditional channel discourses, for example, have tended to stress specialization solely on the basis of function. Organization theory demands adequate attention to alternative modes of specialization, i.e., by product, by customer, by time, by location, by process, and by composite patterns of these basic varieties. All of the alternatives are relevant to distribution systems as well as to internal organization. Furthermore, channel planners perhaps stress short-term efficiency considerations too much in deciding what kind of task-split might be effected with the trade. Organizational theorists call attention to the needs for structural coordination, for promoting cooperation and reducing conflict, for recognizing the vagaries of local conditions, and other criteria for picking proper kinds and degrees of work specialization.

There is reason to assume that managers would uncover a much wider range of distribution alternatives and would probably end up by delegating more of the overall distributive job to tradesmen if they self-consciously applied the broader perspectives of organization theory to this step in the design of distri-

bution systems. Finally, some varieties of organization theory focus first on the work and secondly on the worker. Classical institutional and commodity approaches to trade channels seem to have reversed the order of analysis.

Step Four—Allocating Tasks to Middlemen. In matching work and worker, the best procedural approach seems to be to begin with segmenting the end markets to be served and then to progress upward through a process of sequential segmentation in intermediate markets until the intervening work structure can be made to tie together with the producer's internal organization.

At each stage of this process of closing gaps separating the producer from his ultimate markets, a set of interrelated issues must be resolved.

All alternative middlemen must first be *recognized* as alternatives. This is less obvious and more difficult than it appears. Semantic traps, statistical fictions, informational gaps, trained incapacities, managerial impatience and other barriers to creativity befog and bury alternatives from view. Brainstorming and other alternative-producing techniques, of course, are relevant in overcoming this problem.

With the alternatives before him, the manager must sort out ineligible types of outlets, drawing upon earlier key factors, activity requirements, and preliminary grouping analysis for screening criteria. Next, the remaining eligible outlet-types can often be arrayed meaningfully in order of their apparent suitability to the producer, using the same criteria.

At this juncture, several additional types of questions often need to be answered before proceeding to another stage of the vertical channel stretch, e.g., whether there are economies of scale for each outlet-type, how many of each type will be required, and what areal coverage pattern should be used. Since many of the variables used to resolve the latter issues lend themselves to quantification, some companies have been able to program them for computer solutions.

This set of decisions, made at successive stages in bridging the vertical gap between customers and the producer, completes the steps involved in planning the structure of distributive *work*. Before going further, however, the study discusses principles and procedures which serve as possible checks on the adequacy of the activity structure erected thus far on paper. The final step is to define desired relationships between individuals and institutions in the distribution system to provide loci of authority and responsibility as a basis for cooperative action.

Step Five—Designating Appropriate Structural Relationships. As a starting point in performing this step, the producer must know specifically what kinds of activities need to be controlled in order to comply with law, to ensure adequate profits, to generate goodwill and repeat business for his brands, to keep risk within limits, and to provide for effective coordination of his overall marketing program. Next, the producer must identify the sources of his capacity for influencing power-patterns in the distribution

system. These sources are rooted in governmental sanctions, specific laws, the strength of the consumer franchise held by the producer, and similar factors.

Basically, he now faces two alternatives for structural action. He can either try to accumulate market power which will then be exercised unilaterally to exact the compliance of middlemen or he can undertake to create conditions under which authority may safely be dispensed in the system. In short, the alternatives are either to reserve authority from tradesmen, or to delegate distributive authority to them. There are an infinite number of possible ways to mix these two basic alternatives. In this study, the outright ownership of facilities, existence of concubine outlets, pre-retailing practices, widespread consumer deals, and fair-trade arrangements are viewed as manifestations of the "reservation of authority" phenomenon. The delegation alternatives involve outright contractual or other specification of intended delegations, and these steps may be supplemented by the provision of facilitating and auxiliary service units (e.g., distributor training groups and dealer advisory councils) which help all parties to hold the exercise of authority within responsible bounds. The specific pattern of reservation-delegation devices chosen by the producer will depend on the way in which power has come to be institutionalized in the particular work structure he has put together, on the relative size and bargaining strength of producer and middlemen, on the past history of cooperation and conflict with similar patterns of tradesmen, and related factors.

When the five steps of the model-building process have been completed, the overall structure can then be described in charts and manuals. Job descriptions and man-specifications for middlemen may also prove useful as guides to implementation of the model.

CONCLUSION

In very skeletal fashion, these five steps to the organizational design of distribution systems represent the ground covered in this study. Chester Barnard's basic idea is shown to be operationally meaningful; as a technical proposition, organization theory can usefully be extended to the design of external systems. But the task is just as difficult, frustrating, and time-consuming as it is in internal analyses—perhaps more so.

Yet the approach is practical for most firms. Organization theory provides a systematic and rational basis for superseding many of today's intuitive approaches to channel-building. It is a body of doctrine that respects the inherent uniqueness of companies while providing guidelines for both orthodox and unconventional distribution systems. And it allows us to deal with both the *work* to be done in the system and the human *relationships* important to that performance.

Step-by-step application of concepts from organizational theory helps in

the discovery of gaps in traditional ways of thinking about distribution. At the same time, it aids in uncovering more distributive alternatives and in providing criteria for choosing between them, it encourages the challenging of old concepts which may have outlived their usefulness, and it leads to a fuller understanding of the implications of past, present, and future trading actions.

There are many additional ways in which administrative theory can be effectively used to improve the management of distribution systems. Knowledge of institutional leadership and control in internal realms needs to be further extended, and perhaps modified, to apply in all external systems. By breaking down the walls tending to separate marketing from the field of general administration, marketers can also find themselves testing and improving administrative theory. The problem of choosing from alternative theories of organization still exists today. Perhaps further attempts to apply these theories to external systems could contribute to the unification of divergent threads.

This study was one test of organization theory in an external setting. The conclusion is that organization theory stands up better under analysis than does the marketer's concepts of distribution.

Increased awareness of the general applicability of adminstrative and organization theory to external systems may encourage further interdisciplinary contributions to marketing and management. Industrial relations specialists could collaborate with marketers, for instance, in exploring points of similarity and difference between employee-union relationships within the firm and the extra-firm relationships between merchants and their trade associations. Something akin to collective bargaining is said to take place in some trades with respect to the setting of distributor margins and other issues. It would be interesting to pursue this further. Sociologists are now attempting to apply insights from general studies of bureaucracy to manufacturer-dealer relations. The concept of reference group behavior could perhaps be investigated more thoroughly for its relevance to trade channels. The anthropologist's idea of tangent relations and tangent institutions might provide further insights into the design and operation of distribution systems.

In short, recognition of the fact that organization theory offers immediate and practical help to manufacturers in the design of all distribution systems should open many doors for further research and remedy present tendencies toward schizophrenia in understanding business needs and company practices.

35 / *The Logistics of Distribution*

JOHN F. MAGEE

Physical distribution costs are almost always an important part of total marketing costs. Further, they are typically easier to identify and control than most other marketing costs such as advertising and personal selling. And yet many companies pay little or no attention to the availability of new and proven techniques which will permit them to lower such costs. This article shows how a lowering of these costs can be attained.

American business is awakening to a new, exciting opportunity to improve service and reduce costs—better management of the flow of goods from plant to user. Capitalizing on this opportunity means :

Thinking of the physical distribution process as a *system* in which, just as in a good hi-fi system, all the components and functions must be properly balanced.

Taking a fresh look at the responsibilities, capabilities and organizational positions of executives in traffic, warehouse management, inventory control, and other functions which make up the overall system.

Re-examining the company's physical plant and distribution procedures in the light of technical advances in such areas as transportation, data processing and materials handling.

In this article I shall first examine the pressing need for improved management of companies' distribution systems. Then I shall outline some of the most promising ways by which progress in "industrial logistics" can be achieved, with special attention to the implications of technological advances for policy, the problems of getting started with a new look at a company's system, and the steps that should be taken in making a good distribution study.

STUBBORN PRESSURES

The need for progress in distribution is a product of not one but several trends—trends in costs, in product-line policy, and in the market place. More often than not, the challenge posed is to the system as a whole, not just to the particular part or function where trouble is most obvious.

Rising Costs

For years, businessmen and economists have looked with mixed feelings on

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John F. Magee : Head of Operations Research Section, Arthur D. Little, Inc.

the increase in distribution costs in our economy. Over the past half century, tremendous strides have been made in reducing the costs of production, but these feats have not been duplicated in other areas. If the overall efficiency of companies is to continue to improve, management must turn its attention increasingly to holding distribution costs in line. Physical distribution costs in particular, estimated by some to represent the third largest component in the total cost of business operation, are a logical center for management attention.

The problems of cutting these costs pose certain new and interesting questions for business. Whereas in many production operations it has been possible in the past to substitute a machine for human labor and to cut the cost of one operation without seriously disturbing the rest of the production system, this is hardly the case in efforts to cut physical distribution costs. Indiscriminate cost reduction in any one of the individual cost elements, such as inventory maintenance, warehousing, transportation, or clerical activities, can have a disastrous effect on the efficiency of the system as a whole. To illustrate this point :

Suppose we cut inventories. Certainly a reduction in inventories will save capital investment and the costs of supplying capital, and it may save some expenses in storage, taxes and insurance. On the other hand, an indiscriminate reduction in inventory levels may seriously impair the reliability of delivery service to customers and the availability of produtcs in the field. An inventory reduction which saves money but destroys competitive position is hardly a contribution to a more effective distribution system.

We can cut transportation costs, perhaps, by changing to methods showing lower cost per ton-mile, or by shipping in larger quantities and taking advantage of volume carload or truckload rates. But if lower transportation costs are achieved at the expense of slower or less frequent movement of goods, we face the risk of: (*a*) cutting the flexibility and responsiveness of the distribution system to changes in customer requirements; (*b*) requiring greater field inventories to maintain service; (*c*) creating greater investment requirements and obsolescence risks.

Similarly, blanket refusal to allow cost increases in any one part can wipe out opportunities to make the system as a whole more efficient. For instance :

New methods of high-speed data communications and processing may in fact increase the clerical costs of operating the distribution system. On the other hand, they may cut down delays in feeding information back to govern production operations and to control lags in getting material moving into the distribution system in response to customer demand. Thus, they may actually cut *total* distribution system costs because of their impact on improved production and inventory control.

It takes a careful analysis of the total physical distribution system to know whether net costs will be increased or decreased by efforts to cut the cost of any one component.

Proliferating Product Lines

Physical distribution systems in recent years have been put under tremendous pressure induced by changes in product-line characteristics. Until recently, for example, products like typewriters, light bulbs, appliances and plumbing fixtures were largely utilitarian, with differences in product characteristics rather closely related to function. A typewriter manufacturer did not have to worry about matching typewriter color to office decor or type style to company "image." Light bulbs used to be white and sometimes clear, and they varied by wattage. Now, however, typewriters come in pastels and two-tones. Light bulbs are sold not only to provide light but atmosphere, with a corresponding increase in the number of products that have to be shipped, stocked and controlled. Appliances and plumbing fixtures are available to customers not only in the classical antiseptic white, but in a wide range of color and style combinations. In short, style and individuality have become strong competitive weapons.

In an almost unending list of products in the consumer field, variations in color, packaging and other features have imposed heavy burdens on the distribution system. In the marketing of industrial goods, variations in grade, color and size have had a similar impact. In paper manufacture, for example, the wide variety of package sizes required for consumer products has led carton manufacturers to demand correspondingly wide ranges of kraft board roll widths from paper manufacturers, and these demands have created difficult problems of scheduling, inventory control and distribution.

The growth and change in product-line characteristics in both consumer and industrial products have meant that manufacturing plants have had more items to make, and the distribution system has had more items to handle and stock. More items mean lower volume per item and correspondingly higher unit handling inventory and storage costs. Take, for example, just the impact on inventory requirements of substituting three items for one :

Suppose we have substituted items B, C and D for an old item A. If sales among these items are broken down 60% to B, 30% to C, and 10% to D, with no overall increase in sales compared to the volume on the old item A, then Exhibit I shows what is likely to happen to field inventory requirements —an increase of more than 60%. (This figure is based on characteristic relationships between inventory and sales in companies with which I am familiar. In general, the larger the sales, the lower inventory can be relative to sales. Thus, product D with 10% of sales needs a much higher proportion of inventory than product B, with 60% of the sales.)

At a carrying cost of 20% a year, this increase represents a handsome expense for maintaining competitive position.

Let us be optimistic, however, and assume that items B, C and D do more than yield the same total volume; let us assume that total volume increases by 50%. Even so, the inventory requirements would double, and inventory

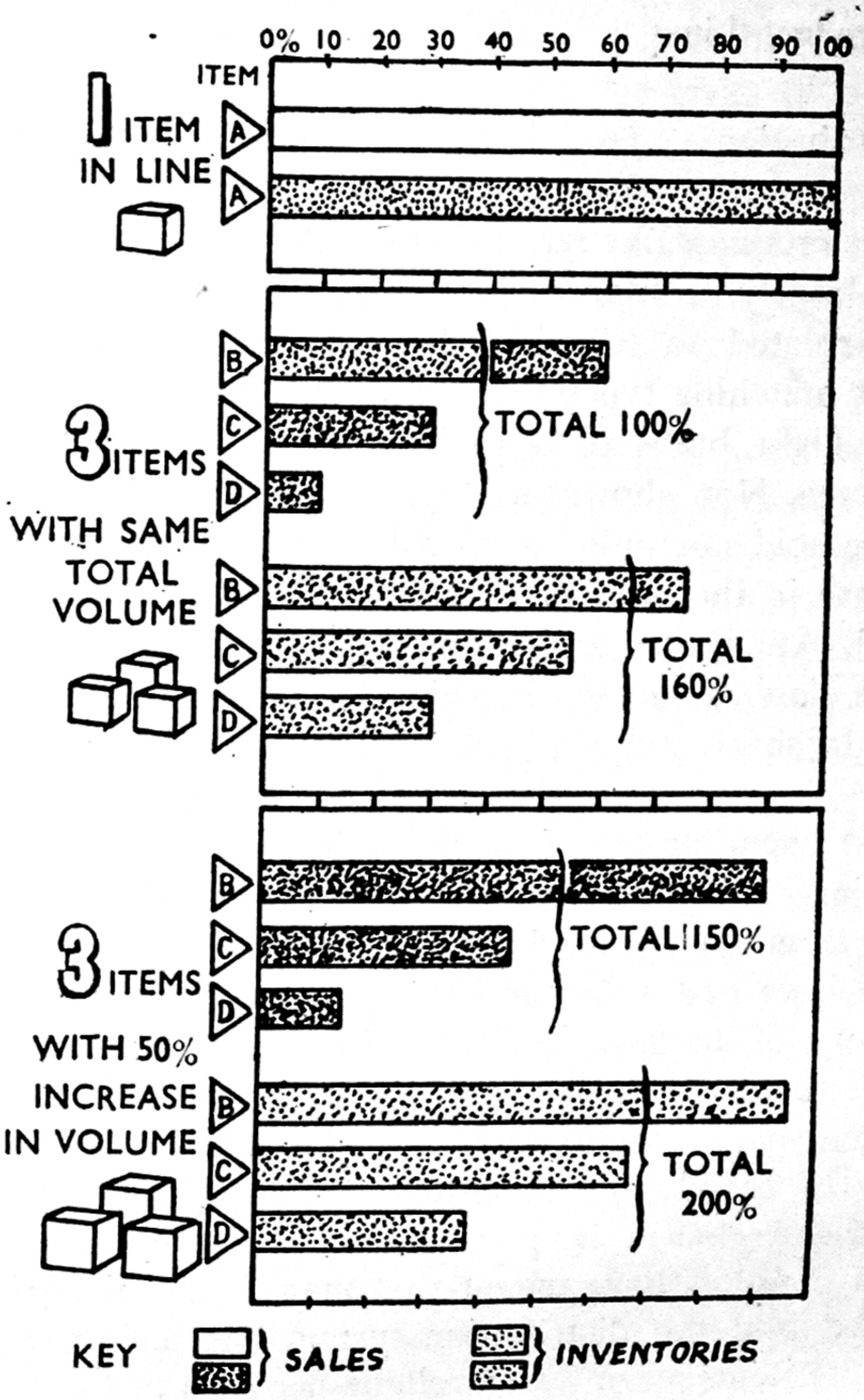


Exhibit I What Happens To Inventories When The Product Line is Broadened?

cost per unit sold would increase over 30%—a substantial source of pressure on the distribution system.

These figures illustrate the impact of small-volume items on the cost of operating the distribution system. Yet diversity of product sales is characteristic in American businesses whether selling in consumer or industrial markets. Exhibit II shows the typical relationship between the number of items sold and the proportion of sales they account for. The figures are based on the records of a large number of firms in the consumer and industrial products fields. The exhibit reveals that while 10%-20% of total items sold characteristically yield 80% of the sales, half of the items in the line account for less than 4% of the sales. It is the bottom half of the product line that imposes a great deal of the difficulty, expense, and investment on the distribution system.

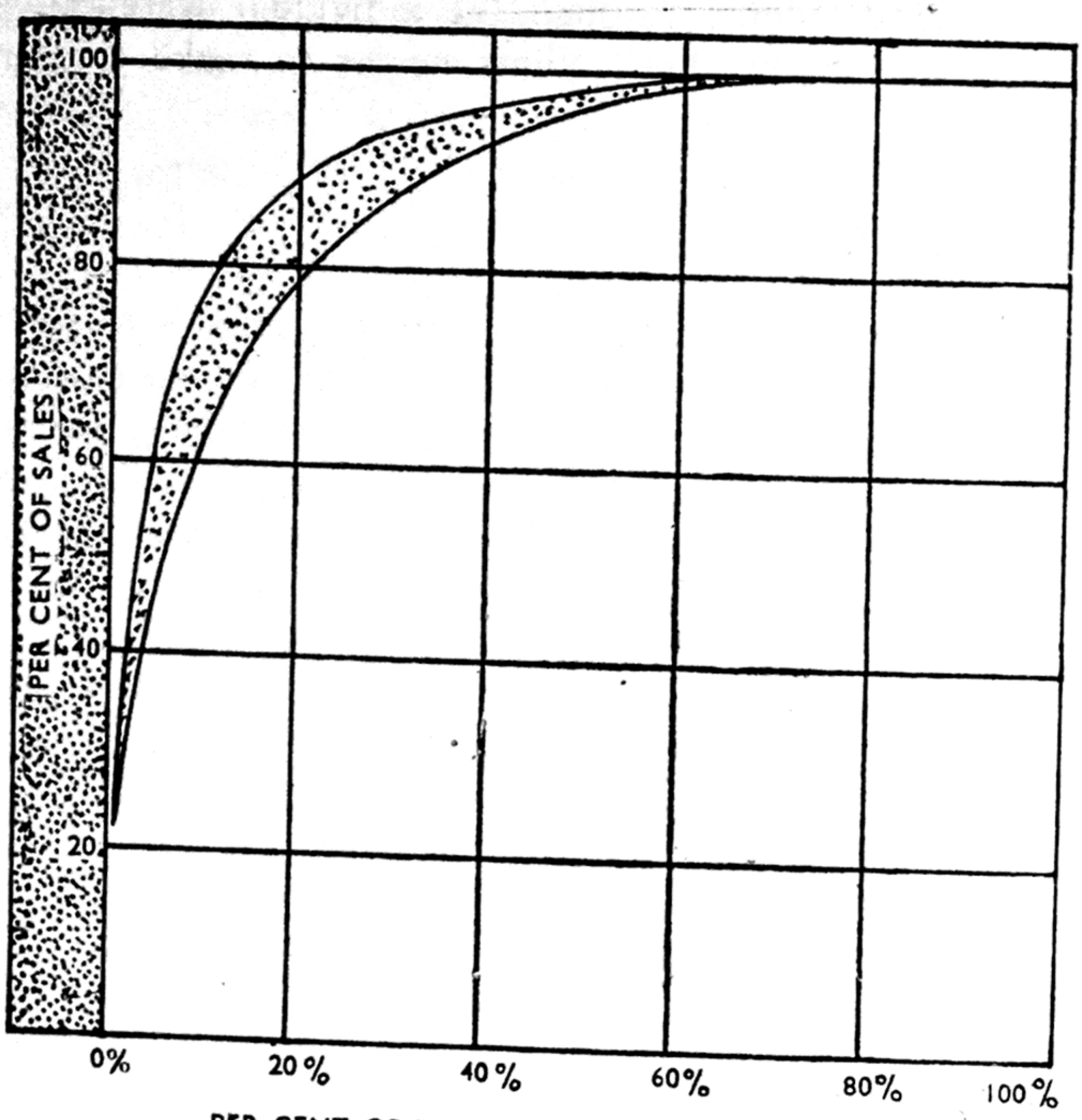


Exhibit II What Fraction of Total Sales is Accounted for by What Fraction of Total Items in the Product Line ?

Alternative Courses

Increased cost, selling, and product-line pressures suggest that management should take a hard look at alternative distribution patterns, as a means of cutting logistics costs without a major sacrifice in service. Here are a few of the possibilities :

The company can carry central stocks of low-selling items only. To get the right balance of transportation costs, handling costs, and service, it may be necessary to stock these items at one central point and ship them against individual customer orders as the latter arise, perhaps by expedited service or air freight.

For many items in the line, a good compromise may be to carry some low or middle-volume item in only a few large regional warehouses, as a compromise between the excessive storage costs incurred from broad-scale stocking and the transportation and service penalties incurred by attempting to meet demand from manufacturing points alone.

Warehouse points can be consolidated. With improvements in transportation and in mechanical material-and data-handling methods, large opportunities exist in many businesses for cutting down on the number of field warehouse

points. With increased volume through the individual warehouses, carrying a broader product line at the local points begins to make greater economic sense.

Sales-generating Capacity

The first and most basic job of the distribution system is to get customers, to turn interest and orders into sales. As business has grown more competitive and the public has become harder to please, management has focused increasing attention on the *quality* of its logistical operations. What can be done to make products more readily available for purchase in local markets? What improvements can be made in backing up product merchandising and advertising programs with adequate deliveries and service? Obviously, questions like these are affected by cost considerations, but as marketing objectives they deserve individual attention.

In analyzing the capacity of a distribution system to produce sales, executives will do well to examine three key characteristics :

1. *Location*—It has been estimated, for example, that from 5 distribution points a company can reach 33% of the U.S. consumer market within a day; while from 25 warehouse locations, 80% can be reached in one day.

2. *Inventories*—Judging from my own and associates' experience, approximately 80% more inventory is needed in a typical business to fill 95% of the customers' orders out of stock than to fill only 80%.

3. *Responsiveness*—The ability of a system to transmit needs back to the supplying plant and get material needed into the field determines how quickly the business can shift with changes in customer preferences to meet demand with minimum investment and cost.

REVOLUTION IN TECHNOLOGY

The pressures on distribution methods have led to exciting new technological advances for getting goods to the user at lower cost to the company—with less labor and materials expended and less capital tied up in inventories and facilities. When these advances are introduced in proper balance, the distribution process can better meet the needs of the consumer. Major technological changes are now taking place in transportation, information handling and material handling. Let us examine each of them in turn.

Costs vs. Transport Time

Transportation thinking has been dominated too long by preoccupation with the direct traffic bill. Too much attention has been paid to transport cost per ton-mile and not enough to the contribution transportation makes to the effectiveness of the distribution system as a whole.

Railroad rate structures are to an outsider an eye-opening illustration of what can happen when a transportation system is put under the cost-per-ton-mile pressure for too long. Rail rate structures, despite frequent attempts to introduce some rationale, have degenerated into an unbelievable hodgepodge of unrealistic and uneconomic rate compromises as the roads have succumbed to the pressure of giving each shipper the lowest cost per ton-mile, often at the expense of service. While improvements in equipment, such as the introduction of the diesel locomotive, have led to greater efficiency on the track, in some cases at least the longer trains and increased classification problems that have resulted have meant little or no net increase in overall distribution efficiency. The gap between traffic and marketing thinking is painfully evident in many companies' distribution methods; little has been done to relate transportation methods and service to the objectives of the distribution system in support of marketing efforts.

Transportation costs are important indeed, but they are only part of the story. For example, think of the value of materials in transit :

Data collected on sample shipments in various parts of the country indicate that material may spend one to two weeks in transit and that the capital value of assets tied up in the transportation system may, depending on the pressure for capital, add as much as 1% to the economic cost of the goods.

Service, or reliability of the transport system, is also important. Goods must get to the user promptly and reliably, to permit him to operate systematically with low inventories.

The direct and indirect costs of damage in transport are another large item in the traffic bill that at times gets overlooked in the pressure for low cost per ton-mile.

Clearly, transport time is one of the key determinants of the efficiency of the distribution system. Its impact is not vivid or dramatic, and executives do not always appreciate what a difference it makes, but in a great many companies it is a significant factor in financing. To take a simple illustration :

Suppose that in a company doing an annual business of $100 million, time in transit is reduced from 14 days to 2. Time between reorders is 14 days, communication and processing time is 4 days, and field stocks average $12.5 million. In such a situation the reduction in transit time might well lead to a reduction in distribution inventory investment of $6 million, made up of : (1) a reduction of $3.3 million in transit, i.e., 12 days' sales; (2) a reduction of $2.7 million in inventories required to protect customer service resulting from a faster, more flexible distribution system response.

Speeding up Service

Changes in transportation leading to improved opportunities in distribution have been truly revolutionary since World War II. Major superhighway

systems have been built, truck speeds have increased substantially and so have trailer capacities. The growth in the use of trucking for industrial distribution is now well known. The stimulus from subsidies is only part of the story; trucks have been able to compete at characteristically higher ton-mile costs because they have offered speed, reliability and flexibility to shippers.

Without doubt, railroads are responding to this challenge. A recent survey showed that almost all Class I railroads are offering some form of piggyback or expedited motor-carrier service. At least some railroads are showing new merchandising awareness in concentrating on customer service. Whether the industry will be able, in the face of inherent limitations, to reverse the decline in its share of manufacturers' freight business is still an open question.

Air freight represents a challenge to both rail and over-the-road haulers. Today most industry executives still tend to view air freight as a luxury, as a service available for "orchids and emergencies." However, the trend in air freight rates has been sharply downward in recent years. With new planes coming into service, even further reductions can be projected—down to 8 cents to 12 cents a ton-mile from present-day rates of approximately 22 cents. Much depends on the success of efforts to develop aircraft equipped for freight handling and for flexible operation under a wide range of conditions (for example, modest runway lengths), and to build up the ground service needed to match air-handling speeds so as to avoid the danger faced by the railroads—the collapse of service as a result of concentration on mass, low-cost, terminal-to-terminal movement.

Impact of New Methods

What is the significance of the ferment in transportation methods? For one thing, improvement in local truck service opens up opportunities to serve wide-flung markets through fewer and larger distribution points. With larger distribution centers, the chance that mechanized material handling and storage systems will pay off is enhanced, and inventory requirements are reduced through consolidation.

To suggest the size of the opportunity, one analysis with which I am familiar showed that cutting the number of field distribution points for a national product line from 50 to 25 would increase total transport costs 7% but cut inventories 20% and cut *total* physical distribution costs 8% (the latter representing roughly a 1% cut in the total cost of delivered product). This was accomplished at the cost of serving a few small markets—about 5% of the total—with second-day instead of first-day delivery.

Rapid truck or air service increases the feasibility of relying on shipments from a few central points to back up service. Here are two ways in which this can be employed :

(1) The many low-volume items in the typical product line, the items on which local storage and handling costs outweigh the penalty costs of expe-

dited shipment, can be held centrally and moved to the market where they are needed, as needed. For example, the bottom 50% of the product line, which as Exhibit II shows often accounts for only 4% of sales, may require 25% or more of the warehousing costs and inventory capital charges. Turnover of the stocks of these items is often only one-eighth that of the high-volume half of the line. In a *relatively* high number of cases, special shipments could be made at a cost well below that of storing the items at local distribution centers.

(2) If there are substantial reserve stocks designed to protect customer service located in the field, it is possible to pare them down in the knowledge that additional supplies can be moved in promptly to meet sudden customer demands.

In a typical distribution system a large share of the inventory—as much as 90%—is carried to protect delivery service to customers in the face of fluctuating demand and system delays. This safety stock is most likely to be used at the end of the reorder cycle, when stocks hit their low point before new receipts. Exhibit III illustrates a common situation, with safety stocks being partly depleted at intervals just before a new shipment arrives. During the period of the first reorder, demand has been heavy. In many reorder cycles, however, stocks will not be touched at all; this is the case before the second reorder in the illustration (middle of the chart) comes in. Note that inventory in transit represents a fairly significant proportion of the whole.

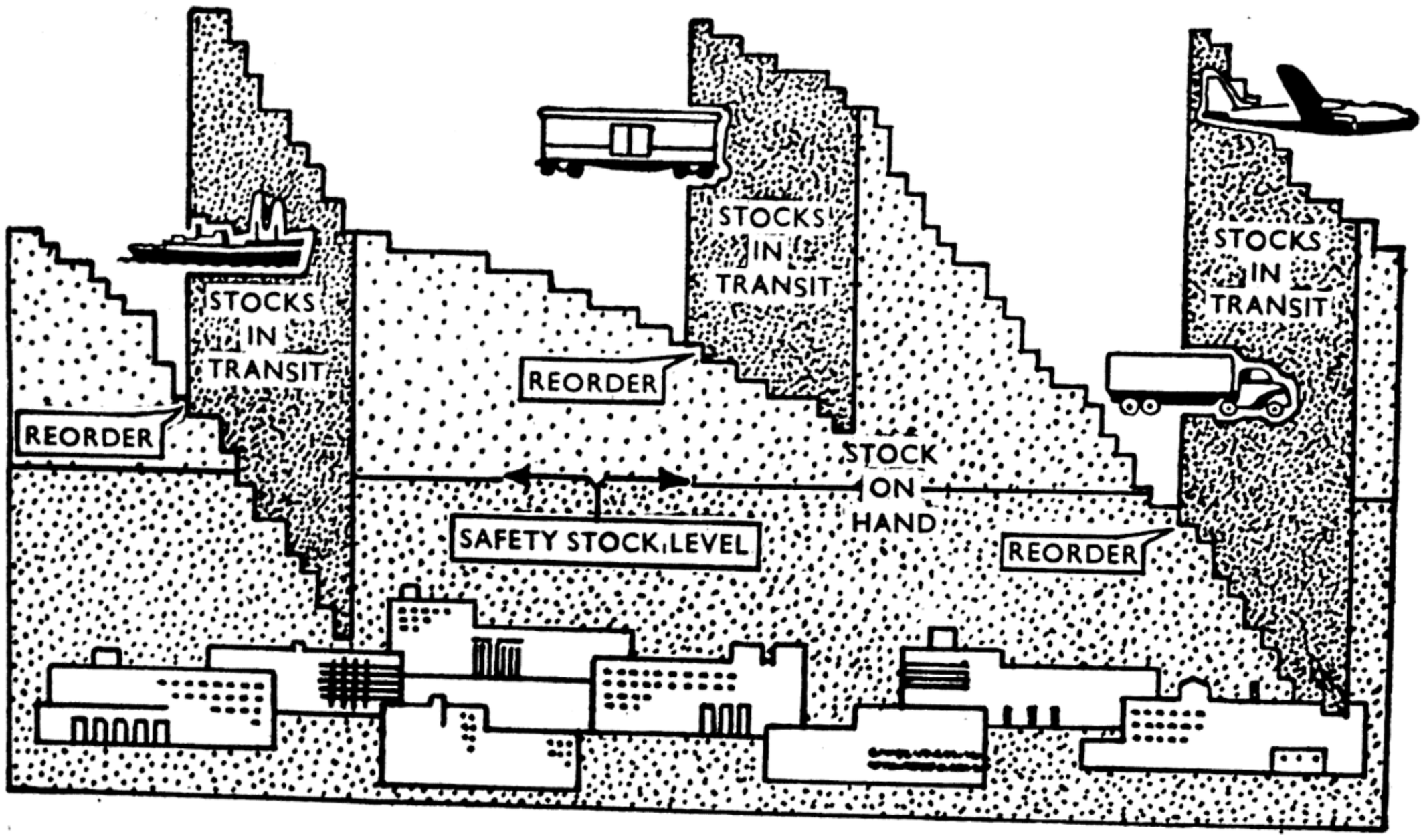


Exhibit III What is the Characteristic Inventory Pattern of Stocks on Hand in the Typical Company ?

How much of safety stocks is actually used depends on the reorder system

and level of service maintained. Typically, the last 10% may be needed only once or twice a year—a turnover rate roughly one-sixth the average; and the last 30% may be needed only two to four times a year. Warehouses and inventory carrying charges on this portion of inventory, then, may easily run to 10%-20% of the sales they make possible.

There is an opportunity in many companies for management to cut material held in the field and back up customer service through regularized high-speed delivery service. This possibility will deserve increasing attention from management as the costs of high-speed transport, communication and data processing drop.

Information Processing

Revolutionary data-processing methods were noisily battering at established business methods some six or seven years ago, but the impact was more in noise generated than in accomplishment. Now that a lot of the superficial excitement has died away, however, a broad and solid structure of accomplishment in modern data-processing techniques is quietly being built.

For one thing, computers seem to have become much more broadly accepted than anticipated. When the earliest internally programed machines were announced, computer manufacturers' optimistic estimates were in the dozens. Today the number of machines installed or in the process of installation is in the thousands. In support of computing or processing facilities, great improvements are taking place in communications systems, especially systems designed to feed into or out of computers. In distribution management, fast, reliable communication is equally as important as fast, reliable processing.

The *use* being made of modern information-processing equipment in distribution is just as significant as its broad market acceptance. For instance, machines are being used to maintain local inventory balances, forecast near-term demand, employ forecasts and inventory balances as inputs in calculating item orders, prepare tentative purchase orders, allocate item balances among stock points, and draw up production schedules and work force requirements. These are not mere compiling and accounting functions, nor is it fair to call them "decision-making." In these functions, the machine systems are interpretting rules or procedures to work out the decisions implicit in them in light of the facts of the situation. In other words, the equipment is doing what we would like intelligent clerks to do: diligently following policy and weighing costs to arrive at day-to-day actions.

The forecasting function in particular deserves special attention. I refer not to the longer term economic forecasts, annual business forecasts, or even shorter term (e.g., quarterly) business predictions, but to short-term forecasts of sales, item by item, over the replenishment lead time. These forecasts are made implicitly or explicitly in every inventory control system. In

most companies they are left up to the individual stock clerk or inventory controller to make as best he can, usually with little or no training or guides. Management will spend hundreds of hours of industrial engineering time simplifying or improving a job method here and there to take a few pennies out of labor cost. Yet the stock clerk making inventory control forecasts may, through his control over product distribution and assets tied up in inventories, be costing his company many pennies indeed.

Many people still argue that one cannot forecast routinely because intuition and background knowledge count too heavily. They fail to recognize that objective procedures for short-term prediction of item sales have the same merits, as say routing and tooling lists in a shop. Experience leaves little doubt that great gains can be made by substituting powerful systematic methods for casual or unrecognized ones.[1]

Changes in Material Handling

Mechanization is slowly spreading from the making of things to their handling in distribution. For instance :

One company in the clothing industry has installed a new data-processing system first to handle sales orders and then inventory control and production-scheduling systems. At the same time, it has been developing a bin-and-conveyor system which will permit economical mechanization of order-filling activities. The goal toward which both of these efforts are directed is a unified system in which the customer order not only serves as an input in automatic order handling but will also, after suitable internal mechanical processing, activate the warehouse system to select and consolidate the customer's order. This customer order data will also be processed internally for inventory management and production planning purposes.

How will such changes in warehousing and materials handling influence the planning of distribution systems ? The effects will take at least three forms :

1. *Integration of systems for* (*a*) *material storage and transport and* (*b*) *information handling*—This development should create opportunities for significant "automation" of the distribution function and for reduction of manual drudgery. Ultimate full-scale mechanization of materials handling will not only require redesign of warehouse and transport facilities, but will have an impact on design of products and packages as well.

2. *Pressure to reduce the number of distribution points or warehouses*—Mechanized warehouses cost money. One way to improve the efficiency of capital utilization is of course to increase throughput.

3. *Pressure to concentrate ownership of warehousing facilities*—Mechanization takes capital. This factor will be another force behind the tendency

[1] See Robert G. Brown, "Less Risk in Inventory Estimates," HBR July-August 1959, p. 104.

for manufacture, distribution and maintenance service to become integrated under one ownership roof.

GETTING STARTED

Some managers view the opportunities presented by changes in distribution technology with about the same air with which a bear views a porcupine : the possibilities look interesting, but where can you start to get your teeth in ?

Improvements in distribution efficiency cost money. Higher speed, more flexible transport generally costs more per ton-mile. Mechanized warehousing systems or material-handling systems are not cheap. The cost of working out, installing and testing new information-processing systems may make direct clerical cost savings look like a rather thin return on investment. In fact, direct payoffs from distribution changes (e.g., modified transport methods leading to a direct cut in transport costs) may often be small or nonexistent. The payoffs, often handsome ones, are likely to be indirect, coming about from "tradeoffs" such as paying a higher transport bill to save material investment, putting in warehouse investment to cut overall shipping costs, and so on.

Because tradeoffs so often are involved, it is not always easy for management to get an aggressive, functionally operated group of people to *think through* the problems. It is not easy for men in production, sales, warehousing, traffic, merchandising and accounting to grasp other functions' needs or express their own needs in terms which make the advantages of tradeoff and balance clear. Many times the distribution *system* has been run too long as a collection of more or less independent *functions.* Any changes, any tradeoffs to get the system into better, more economical balance, any modifications to take advantage in the whole system of new technical developments —these are bound to be disruptive and to some extent resisted.

The difficulties in facing up to a searching look at the distribution system are not confined to the individual functions concerned. Some of the toughest questions arise at the general management level. For example:

What degree of sales service is the system to provide? How far will the firm go to meet customers' service desires?

What standards are to be used to judge investment in facilities and inventory so that it can be weighed against any cost savings that are made possible?

What policy will the company take toward ownership and operation of the distribution, transport, warehousing and information-processing facilities? Will the company operate its own facilities, lease them, contract for services or rely on independent businesses to perform some or all of the necessary distribution system functions?

What is the company's policy toward employment stabilization? To what

extent is the company prepared to pay higher distribution costs to absorb demand variations and to level employment?

Approach to the Issues

Grappling with all of these problems is like untangling a tangled skein of yarn. Each decision has an impact on other choices and for this reason is hard to pin down. The distribution problem is a system problem, and it must be looked at as such. If it is examined in total and if the experience and methods available for studying it are used, the issues just mentioned can be resolved in an orderly, mutually compatible way.

In my experience, three key conditions have, when present, made for a sound distribution system study and an effective implementation program :

(1) Recognition by company management that improving distribution means examining the full physical distribution system.

(2)Use of quantitative systems analysis or operations research methods to show clearly the nature of tradeoffs and the relation between system operation and company policies.

(3) Cooperative work by men knowledgeable in sales and marketing, transportation, materials handling, materials control, and information handling.

In the following sections we shall see the need for these conditions asserting itself again and again as we go through the steps of making a good distribution study.

MAKING THE STUDY

How should a distribution system study be made? What principal steps should be taken? As far as I know, there is no formula for the approach. The relative emphasis put on different phases of the study can vary, as can also the degree of detail; the order of analysis can be changed; and so on. But there are important steps to take at some point in any study, and I shall discuss them in logical order.

1. *Data on the company's markets should be organized in a helpful way.*

The distribution system study starts with a study of customers. This does not need to be a field interview program; to a large extent what is required is the organization of market facts which are available. Occasionally, a moderate amount of skilled field interview work may be desirable to obtain customers' estimates of service requirements and their comparison of the company with its competition.

A great deal of useful information can be obtained by analysis of sales data. Here are some of the key questions of interest :

Are we servicing several fundamentally different markets through different distribution channels? Are these markets located differently? Do they buy in different patterns, in different quantities, and with different service and

stock availability requirements?

How are our sales distributed among customers? We have found that the top 10% of a company's customers characteristically account for from 60% to 80% or even more of its business.

Do the same customers tend to buy our high-volume items as well as slow-moving items? The answer to this question has an important bearing on how the slow-moving items, for which distribution and sales service costs are often relatively high, should be handled. Few companies seem to have really examined this problem, though strong opinions on it exist in most.

2. *Statistical analyses of product characteristics should be made, with special attention to the nature of sales fluctuations.*

Sometimes the facts about products can be established fairly readily. An example is the susceptibility of items in the line to spoilage or damage. The degree to which sales volume is concentrated among a few fast-moving items (as illustrated in Exhibit II) can often be ascertained rather quickly, too. But data of this kind do not tell us nearly enough.

Statistical analysis is needed to establish certain key sales characteristics of the product line, all related to the *variability* of item sales. The significance of variability must be emphasized. Business managers are used to thinking in terms of averages or average rates, but the answers to many important questions affecting distribution system design depend on the characteristics of short-term sales variations about the average.

Most items exhibit unexpected day-to-day variations in sales about the average or expected level. In some cases the fluctuations are extremely wide and short-term in character; in other cases they are quite steady and pedictable. The statistical characteristics of these variations determine in a very significant way how a distribution system will work and how it should be designed to operate economically.

3. *In analyzing sales variations, special attention should be paid to size; time, area, and volatility.*

Executives interested in the practical implications of short-term sales variations might focus on the following questions :

How big are the ups and downs? The magnitude of sales variations *over the replenishment lead time* will determine how large the inventory of an item must be to maintain a desired level of delivery service. The amount of an item on hand at a field point or on order must always equal the maximum reasonable demand over the lead time. Thus, the bigger the sales fluctuations, the more inventory of an item must be carried in the distribution system—at local warehouses, at the factory—to provide a given level of delivery service.

Are the variations correlated from one time period to the next? If one day's sales are above or below average, are the chances considerably better than 50-50 that the next day's sales will be above or below average, too? If sales are highly correlated from one week to the next, or from one month

to the next, this means that the range of accumulated variation over the replenishment lead time increases nearly in proportion to the lead time itself. Doubling the warehouse lead time would nearly double the range of sales variations and the inventory requirements, while cutting the lead time in half would cut inventory requirements nearly in proportion. If sales are *not* correlated from one period to the next, chance variations tend to offset to some degree; doubling the lead time would increase inventory requirements only 40%-50%, while cutting it in half would cut inventories 30% or so.

High correlation in sales puts a premium on cutting lead times to make the distribution system react faster, perhaps through more expensive but higher speed transport, communications and sales-information processing. By contrast, lower correlation means it may be more economical to let lead times lengthen and save expense in information handling and transport at the cost of somewhat higher inventories. Exhibit IV illustrates all this graphically for a hypothetical firm :

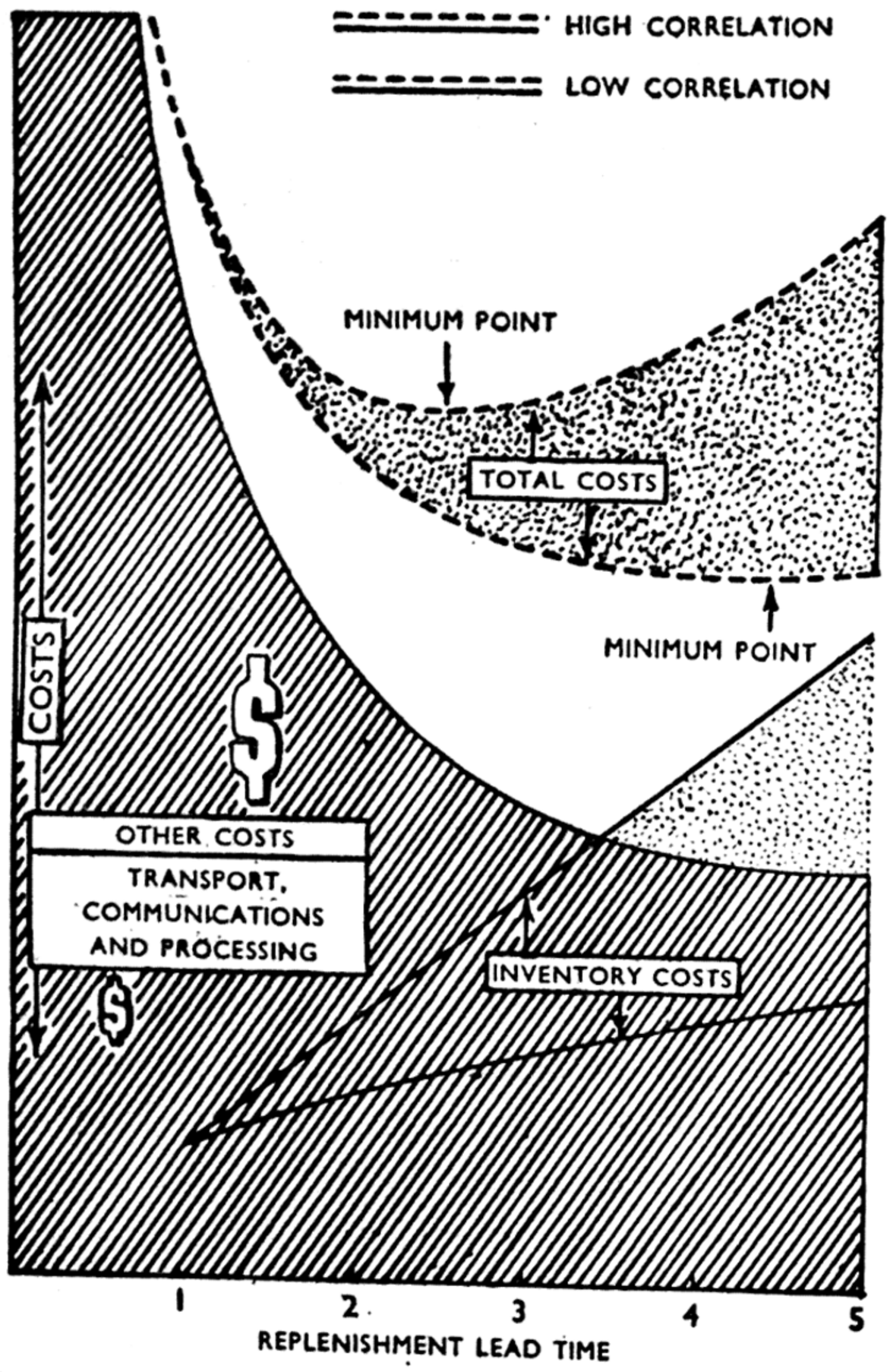


Exhibit IV Impact of Sales Correlation on Lead Time Cost

The dotted line represents transport, handling and data-processing costs, tending to fall as a longer lead time permits less frequent reordering and slower, less expensive methods of shipment. The solid lines represent unit

inventory costs, increasing nearly in proportion to lead time in the case of high sales correlation (dashed color line) and at a slower rate in the case of low correlation (black dashed line). The higher the correlation, the further the point of minimum total cost is shifted toward the left—that is toward a shorter lead time—even in the face of higher transport, handling and processing costs.

Are sales variations correlated between areas or markets? Is an unexpected increase in an item's sales in, say, the Pittsburgh area likely to coincide with an increase in Cleveland, or are variations unrelated from one market to another? Some causes of expected sales variations may affect a wide geographic region (e.g., weather, rumors); others may be related entirely to local conditions (e.g., individual customers' plans).

The degree of cross-correlation in chance sales variations occurring in different markets has a significant influence on warehouse location decisions. For example, if the cross-correlation is low, so that chance variations in sales in one market tend to offset those in another, there is a potentially substantial economy in consolidating warehouses, in having fewer distribution points to serve the same total market. But if the cross-correlation is high, little would be saved to offset possibly greater transportation costs.

How do sales variations compare among items? Are sales of high-volume items relatively more stable than sales of low-volume items? Generally (but not always), one finds evidence that the higher the sales volume of an item, the more stable will be sales, relatively speaking. Differences in the sales volatility of products influence distribution system choices. The more changeable the sales of an item, other things being equal, the better the chances that centralized stocking in regional distribution centers or plants will be advantageous.

4. *Inventory functions should be examined and related to other company needs.*

Characteristically inventories are made up of : (a) stock in transit; (b) supplies arising from periodic shipment ; (c) reserves carried to protect service in the face of unusual demand (safety stock). In some businesses, inventories are also carried to accommodate seasonal sales patterns and to permit a smoothed load to be put on manufacturing. These inventory functions and methods for analyzing have already been discussed in HBR[2] and there is no need to outline them again here. Suffice it to say that one important job in a distribution study is to identify the functions actually served by inventories and to characterize the factors—e.g., transport times reorder-

[2] See John F. Magee, "Guides to Inventory Policy: Part I. Functions and Lot Size," January-February 1956, p. 49; "Part II. Problems of Uncertainty," March-April 1956, p. 103; "Part III. Anticipating Future Needs," May-June 1956, p. 57; and Robert G. Brown, op. cit. See also John F. Magee, *Production Planning and Inventory Control* (New York, McGraw-Hill Book Company, Inc., 1958) and Robert G. Brown, *Statistical Forecasting for Inventory Control* (New York, McGraw-Hill Book Company, Inc., 1959).

ing principles used, and service requirements—that are responsible for existing inventory levels and costs.

5. *The costs of warehouse storage and handling, traffic or freight, and clerical procedures should be determined.*

Many of these costs are difficult to obtain from normal company accounting records or engineering studies; direct unit costs often just are not maintained in these records. However, statistical analyses of operating cost records can often serve quite adequately.

Warehouse costs are as good an illustration as any of the approach I have in mind. Included here are :

a. *The costs of holding inventory*—These are generally related to the average or maximum inventory level in a distribution center and include space rent (including maintenance and janitor services, heat, and so on) and inventory costs (taxes, obsolescence and spoilage, and especially the cost of capital tied up in inventory). In our experience, careful study of the storage bill typically yields costs of 20%-35% per year on the capital value of the inventory, depending on the financial resources and policies of the company.

b. *The costs of handling*—These include the costs of physically moving material into and out of storage or through terminal marshalling areas.

What is wanted here are cost factors which can be used to calculate the warehousing and handling costs under different system plans. These factors usually take the form of :

A fixed charge per warehouse per year × number of warehouses (the fixed charge is generally $5,000-$10,000 per warehouse per year, depending on the character of space).

Warehousing cost per year per unit in inventory × average inventory in the system.

Handling cost per year per unit through the warehouse.

These cost factors can be built up from an engineering study or derived from statistical analysis of existing cost data. They will, of course, differ for different types of facilities and operating methods. For example, a mechanized warehouse operation will of course have a quite different order of costs from a non-mechanized operation.

Clerical cost factors for alternate operating systems can be derived in similar fashion. Transport costs must also be collected, usually in the form of specimen rates collated with shipment volumes for alternate transport methods. Such possibilities as in-transit privileges, "marriage" of shipments, and forwarding schemes should be reviewed.

6. *Management should analyze alternative distribution plans on paper.*

The effect of alternative numbers of warehouses, changed locations, different transport methods, and different response times should be tested, using the methods of inventory analysis and programing techniques. Existing manufacturing capacities and locations may be used as a starting point. Alternatively—or as a second step in the analysis—the effect of changes in manufac-

turing facilities, in capacities, or in the product assigned to individual plants can be tested.

The first broad system studies are used to see where the biggest payoffs or traps may be. On paper, it is possible to make some arbitrary changes in lead times, warehouse locations, plant capacities, flexibility, and so on to see what the gross impact on distribution costs will be and thus whether detailed implementation studies are justified. It is important that the system study be based on current demand conditions, such as gross volume, product mix, and regional balance, as well as demand conditions projected roughly five to ten years ahead.

The facilities analysis is a step-by-step process. As the studies proceed, they will indicate potentially useful modifications in the distribution system. For example, a high concentration of sales among a few customers may indicate the need for special distribution plans, or the degree of concentration among products and the statistical characteristics of demand will suggest the need for regional stocking, changed warehouse numbers or locations, or similar alternatives. Again, an inventory study may indicate payoff possibilities in reducing lead times, in modifying service standards, or in introducing new, more flexible transport and handling methods.

Generally, as a result of broad analyses of facilities and operations, special studies will be indicated. Such studies as these may be in order :

Detailed analysis of the information-processing methods and costs to (*a*) take advantage of advancing technology to improve forecasting and control and (*b*) cut replenishment lead times.

Investigation of the costs of employment variations and manufacturing changes. Additional inventory—or changes in production technology—may be justified to minimize these costs. If so, however, the additions or changes should be clearly recognized; "manufacturing cost" is too often a lame excuse for careless, inefficient management of materials in distribution.

Study of product redesign or regrouping, especially where the product line may have evolved without much thought having been given to logistics concepts.

Analysis of special ordering procedures, stock locations, and transport methods for handling low-volume items.

ORGANIZATION PLANS

Distribution system management poses some puzzling organization problems to the typical, functionally organized firm. Distribution is not a sales function; it is not traffic management; it is not a manufacturing responsibility. It is an aspect of *all* of these functions. At the same time, the effectiveness of its managers will determine the conditions under which men in the individual functions must work.

Most companies prefer not to put all aspects of distribution management

—sales order processing and analysis, field stock control, warehouses, traffic, production control—under one organizational unit, but to divide responsibility among several interested units. Such a division leads, however, to difficulty principally because of failure to (a) recognize the need for specific coordinated distribution systems planning, (b) specify planning and control responsibilities, and (c) set up performance measures consistent with overall system efficiency and with assigned responsibilities.

In revising an organization to meet current needs and in keeping it up to date, executives should try to have five questions uppermost in their minds :

1. What are the necessary planning steps, policy decisions, and operating decisions to be made?
2. Who is the right person to make each of the decisions?
3. What information does he need, and how can he get it most expeditiously?
4. Does each person know how to recognize an emergency calling for non-routine action? Does he know how to resolve it?
5. What performance measures reflect what is expected of each person in terms of the operation of the whole system?

CONCLUSION

To sum up, a number of pressures have piled up on today's distribution systems. As manufacturing efficiency has increased and product cost has come down, costs have grown. Physical distribution costs are a significant share of these.

Business in many fields is becoming increasingly competitive, with competition taking new forms, including availability of goods and reliability of delivery. Product changes are forcing new pressures on the distribution system —more items to carry, faster obsolescence, lower unit sales and inventory turnover. In particular, changes in merchandizing practices, such as the introduction of style as a merchandizing weapon, have significantly complicated the distribution problem. Pressures for improvement in logistics also include internal forces—for example, the need to stabilize production and insulate production levels from short-term fluctuations in sales.

In the face of these trends, a number of revolutionary changes have taken place. Substantial improvements have come about in essentially all forms of transportation methods. Tremendous strides forward have been made in information-handling methods, including schemes for assimilating and processing data dealing with product demand and with the need for replenishment. Materials-handling methods, ranging from mechanized stock keeping to extensions of the pallet concept to eliminate item-by-item handling, have been gaining acceptance. Finally, and perhaps as important as improvement

in physical facilities and concepts, there has been progress in ways of looking at the logistics problem and at methods for analyzing distribution systems.

Long-Run Implications

So far, we have seen far-sighted companies taking advantage of the changes I have described by redesigning their distribution systems to cut costs and increase the support given to sales programs. The next step is now beginning to be felt—the insinuation of distribution concepts into certain aspects of long-term planning and capital budgeting, especially the analysis of facility requirements, the location of distribution points, and the determination of financial requirements to support distribution.

Of course, we must avoid the trap of thinking that all management problems will be resolved in terms of efficient distribution. Nevertheless, the long-range impact of distribution-system thinking on production, on product design, and on manufacturing location may be substantial. Perhaps one of the most significant changes will be in concepts of organization, in the assignment of functions and responsibilities. Efficient physical distribution poses a challenge to business in integrating what is essentially a system approach with the functional approaches that hitherto have tended to govern business organization planning.

In the long run, at least two possible directions are open for making a wide variety of products available in local markets. On the one hand, manufacturers can move toward centralized manufacture, with the specialty or small-volume items being made in enough volume to permit reasonable manufacturing economy and then being moved rapidly, perhaps by air freight, to the local markets as needed. On the other hand, management can try to achieve diversity through superficial differences built into a few basic product lines. Low-cost mass transport methods, perhaps rail freight, can be used to move parts and components from centralized manufacturing points with heavy equipment into widespread local assembly or modification plants. At the local points, the final touches can be put on the product to meet customer demand.

One thing seems sure: the choice of distribution system each company makes will have a significant impact on product design, plant investment, and organization. Industrial logistics and trends in logistics technology will receive increasing attention from business, along with markets, capital resources, and product development, in the formulation of corporate plans for the decade ahead.

36 / The Functions of Advertising in Our Culture

IRVING S. WHITE

What are advertising's limits and potentialities? The author shows how three major variables in the communication process between the advertiser and the consumer—cultural attitudes, brand imagery, and direct experience with a product—are related to advertising effectiveness.

THE function of advertising in our culture may be characterized in two theoretical ways.

First, there are those who state the theory within the framework of economic laws, asserting that advertising affects knowledge about and demand for a product.

This article attempts to develop a second orientation. It is that the function of advertising is to help to organize and modify the *basic perceptual processes* of the consumer, so that he is guided toward *seeing* and *feeling* a product in a given predictable way.

Advertising as a Perceptual Process

With the recently formed partnership between the social scientist and the marketing professional, some foundation has been laid for a general reorientation toward understanding this influence as a dynamic process between communicators and perceivers. David Ogilvy and other advertising practitioners have formally incorporated terms such as "brand image" as applied to various advertised products. Journalists such as Martin Mayer have come to see advertising as affecting the "values" of a product.[1]

Yet "images" and "values" have no meaning outside of the experience and outlook of the consumer as a personality and the consumer-market as a social group. Gardner and Levy, influenced by the social psychology of George Herbert Mead, have shown how consumers are swayed toward or against a product because of the way a brand image is perceived.[2]

[1] Martin Mayer, *Madison Avenue,* U.S.A. (New York: Harper and Brother, 1958).
[2] Burleigh B. Gardner and Sidney J. Levy, "The Product and the Brand," *Harvard Business Review,* vol. 33-No. 2 (March-April, 1955), pp. 33-39.

SOURCE : From *Journal of Marketing,* national quarterly publication of the American Marketing Association, vol. 24, July, 1959, pp. 8-14. Irving S. White : Director, Creative Research Associates.

And Martineau's *Motivation in Advertising* is a practical and lucid application of that proposition.[3]

It is a truism that the function of advertising is to inform and sell. But the more basic theoretical question is, how does advertising perform this function?

The Variables of Consumer Experience

Most advertisers would agree that advertising should orient the consumer toward a consistent, and usually pleasurable, relationship with their products. Consistency implies a rather stable organization of meanings and values centering around a product as an "object" in one's life. It is this consistency which gives what is often called "character" to a product or service. Cadillacs, for example, have traditionally meant specific mechanical, aesthetic, and social experiences to their adherents. Buying a Cadillac has often meant success and power to the purchaser, and the conviction that in several years from the time of purchase his car would still connote the same qualities. Pleasure merely means that the consumer derives gratifications out of this object-relationship that motivate him toward repeating and reinforcing the experience.

To structure the experience of the potential consumer along lines of consistent and predictable satisfactions requires an understanding of the total source of meanings, the *whole* interaction between the consumer and the product. For any advertiser, there is a certain amount of realistic humility inherent in the knowledge that advertising is only one of the several sources of stimulation that a product contains for the individual in society. The influences of culture and of private sensations modify and intermingle with the stimuli of advertising to achieve the final pattern of relationship between the seller's product (or ideas and services) and the consumer. What perceptions can advertising influence, and what can it not?

Even to begin to answer this question means an investigation of the structure of the product as an "object" in relationship with the individual. After interviewing hundreds of consumers, utilizing techniques of different levels of penetration, getting at "unconscious" and "conscious" attitudes and needs, three sources of meaning about a product have been isolated.

The first source is the set of meanings stemming from the *cultural definition* of the product. The second source of meaning comes from the consumer's organized set of notions about the brand, that is, the *brand image.* The third source of meaning is from direct *experience with the product.*

CULTURAL DEFINITION OF THE PRODUCT

Social psychology and anthropology have dealt with the problem of objects

[3] Pierre Martineau, *Motivation in Advertising* (New York: McGraw-Hill Book Company, Inc., 1957).

in culture. That is, how do people come to understand and relate in a socially consistent manner to artifacts that are with them from time of birth?

The concept of "object" implies more than just a unidirectional flow of activity from the manipulator to the manipulated. It also implies a set of stimulations and communications in the reverse direction that guide the actions of the user. This means a dynamic relationship between the artifact and the user, wherein the latter perceives and acts upon the former according to the organized meanings that the culture and its subcultures have formulated for it.

The fact that few objects are naturally and intrinsically what they seem to be has been clearly indicated by such thinkers as George Herbert Mead, Jean Piaget, and Heinz Werner. A child growing up within a society begins by viewing an object in an idiosyncratic, self-centered way, and gradually redefines his relationship to it in terms of the broader, adult society. The acculturated individual internalizes the way the general society view the artifact, and sees the product in a setting of needs and values that control his action and attitudes about it. For example, there is nothing intrinsic in a baseball bat to account for its relationship to its user; a member of a primitive society could easily mistake it for a weapon.

It is perhaps more accurate to think of culture as involving a "climate of valuations" rather than being a thing apart from people. "Climate" implies the possibility for shift, and "valuations" suggest that the climate is made up of ideas, beliefs, feelings, and actions expressed by people. Yet the word "culture" as an abstraction also implies that the whole is greater than the sum of its parts, and that people learn from and conform to the patterns of people as a whole.

Elvis Presley in his early exposure on television and in popular music was responded to by a host of individual teen-agers who reacted to him with their own private senses. As Presley grew as an ideal, teen-agers were no longer free to accept him or reject him simply as individuals. They had to cope with a new level of values—that of the teen-age *society.*

Sometimes the important patterns of behavior and perception are learned from smaller reference groups, as adolescents, for example, respond to popular records. Sometimes learning is funneled through the larger, common culture, as in the singing of "The Star Spangled Banner." Although adults live in the same culture, they do not see a popular hit in the same light as teen-agers. Nor do non-Americans respond to the national anthem in the same way as Americans. An object or an idea differentiates itself along lines of the implied *membership* behind it.

Culture places the product in a social context and imbues it with meanings that set the broadest limitations on how it is experienced. A commercial product becomes culturally defined by the broad history of interaction with its market. In particular, the definition is determined by the social, biological, and psychic needs the product fulfills for its user. Thus, when a product

achieves a niche in its cultural context, it is an object which denotes *consistent* (*not* unalterable) and *predictable* behavior within the social structure.

The ballpoint pen, for example, is intrinsically nothing but a complex set of tactile and visual sensations. These sensations are selected and modified by its user, according to the cultural definition of a ballpoint pen, and purposively placed in a social setting. That is, the object becomes perceived by the consumer. The result is that the user experiences a handy, easy-to-use, and relatively inexpensive tool for communicating his thoughts.

Advertising and Culture

Cultural influence is obvious when one thinks of how a cigarette in the mouth of a woman may be perceived today as compared to how it was perceived thirty or forty years ago. The above-the-ankle skirt might have indicated many qualities about its wearer during the last century that would be fallacious today.

Advertising must take account of the current values and product-definitions of the society (or subsociety) in which it intends to operate. In other words, advertisers must be aware of the role of the object in the life of the consumer. Likewise, advertisers must understand the limits of these broader cultural definitions before trying to amplify the product into a brand image.

For example, the social values implied by the concept "perfume" are such that its users are necessarily considered feminine. Any attempt by advertising to contradict the strong mores inherent in such a cultural definition might backfire as a commercial enterprise. Advertisers of male cosmetics and other self-indulgent items have discovered that they must carefully conceal the femininity and narcissism involved in colognes.

Culturally, then, the function of advertising is to understand, to reflect, and in most instances to accept the valuestructure of society before it can go about its creative task of helping to organize in a consistent, gratifying manner the numerous stimulations a product contains for the potential consumer. Advertising can help to select and reinforce certain values and needs inherent in the role of the product. It can operate within the limits of culture to create new expectations for the consumer.

Occasionally an entire society may entertain negative or distorted notions about a product that may be a result of an unfortunate long-standing history between object and consumer. The potential for a limited, positive redefinition on a societal or subsocietal scale may exist in the case of such products.

The reader may think of numerous examples of products and services, the mere mention of which sends a wave of disdain, fear, disgust, discomfort, and other negative reactions through him. Spinach, dentists, hypodermic needles, and long underwear are examples of "objects" with a positive function subordinated to the unfavorable experiences behind them.

In these cases, advertising can embark on the Herculean task of pointing up new avenues of more pleasurable interaction between the product and

the consumer, and reformulate aspects of the cultural definitions of a product class. Of course, true reformulation lies in the response by the consumer society to the communicator's message. If the message is consistent with the society's experiences, an advertising success story may indeed occur in a social movement toward a product. In such instances, reformulation is based on a pleasure-pain principle that promises to take the consumer from an unsatisfying relationship to a gratifying one.

For example, dental care in the mind of the average American is fraught with annoyance and discomfort, on the one hand, or with special precaution, compulsiveness, and concern on the other. Dental care and dentists are too often associated with a conception of teeth as a set of nuisances which nature ordained shall be in one's mouth. The American Dental Association is trying to reorient the client toward conceiving of his teeth and their care in the positive light of self-grooming and social reward in much the manner of the cosmetic industries.[4]

And when the Tea Bureau suggested that tea is the "hefty, hale, and hearty" drink for the average man, it was attempting to counter the stereotyped notions of effeteness, femininity, and snobbishness culturally attributed to the drink.

If the program of redefinition dramatically and effectively brings a product closer to the experience of the consumer, a new cognitive orientation toward the product will take place. Success in changing a popular concept depends upon how intense and stable, how true to experience, is the cultural tradition concerning products, ideas, or services.

Although advertising can help to reorganize some of the social interaction between a consumer and a product, it must be sensitive enough to these patterns to recognize their intensity and stability. An extremely exotic product, perhaps suitable for a small elite group, cannot be converted into a mundane, mass product *merely* by advertising.

THE BRAND IMAGE AS A SOURCE OF MEANING

The cultural definition of a product is too broad and generalized to allow a consumer to select a brand. It helps to create the initial set of expectations about the product which is then qualified by the second variable in product-consumer interaction, the brand image.

The brand image, as a source of meaning, helps the consumer further to select and organize the stimulations of the product, display, and other communications directed to him. Mead's social psychology suggests that an "image" guides one's actions and attitudes toward the object.[5]

[4] "A Motivational Study of Dental Care: A Pilot Investigation," prepared for the American Dental Association by Social Research, Inc., in the *Journal of the American Dental Association,* serialized in vol. 56 (March, April, May, and June, 1958).

[5] George Herbert Mead, *Mind, Self, and Society,* edited by Charles W. Morris (Chicago, University of Chicago Press, 1934).

It has been further suggested that the *meaning* of any message is the "change which it produces in the (already existing) image" that an individual harbors about the object in question.[6] This means that the message value of a television commercial, for example, lies in the degree and direction of change in a brand image previously held by the viewer. (Reinforcement of an already existing image implies a change in degree.)

Differences among brand images represent much more than literal product differences. A whole different set of notions and actions are inherent in the name "Lincoln" as compared with the name "Jaguar," despite the fact that each make has at least one or two models that are functionally comparable. It is somewhat difficult to imagine the typical Lincoln owner sitting behind the wheel of the typical Jaguar. The difference in the two images is, therefore, more intricate than the simple differences between the two lines of cars.

Tests of consumer reactions to various products and their advertisements indicate that the brand image may undergo change more quickly than the basic cultural definition of the product. Perception of the brand image is more capable of being influenced than is the perception of the general class of the product. This is logical, as the image is formulated within the limits of a culture.

The changes which took place in the brand images of certain filter cigarettes, for example, were fairly swift once the underlying cultural attitudes about filter cigarettes were modified by broader social influences affecting their definition, such as science, medicine, group hysteria. Marlboro could become a *manly* cigarette rather quickly once society relaxed its notions about who might smoke such a cigarette.

The image of the brand appears to be a relatively stable organization of percepts about a product. Once established, a brand image lends the consistency and predictability in the consumer's relationship with the product which allow him to select and experience those aspects of the product he values. Schweppes quinine water must indeed be a different experience to those who have responded to its image than is that of several other brands. The senses become attuned differently, and the social values inherent in the product-consumer interaction are different from brand to brand.

Advertising and the Brand Image

The major influence of advertising appears to be felt in the area of consumer perception of the brand. The brand image is the major organizing concept through which the consumer is guided toward perceiving unified patterns of stimulation. This imagery provides the emotional and sensual qualities which distinguish a brand from the general product-class and help the consumer discriminate from brand to brand.

[6] Kenneth E. Boulding, *The Image* (Ann Arbor: University of Michigan Press, 1956), p. 7.

Jello is not just a gelatin dessert, nor are Jello and Royal simply two products united by their common class. For the purchaser of a brand, there is usually a feeling that one has purchased a product distinctly different from another brand. This is probably most obvious in the case of beer and cigarettes.

This is the clue to what is often termed the "irrational" motive of the consumer in purchasing products. Skeptics, classic economists, and behaviorists in market reasearch might demonstrate by blindfold tests how suggestible the average consumer is. They point out that the average consumer cannot distinguish between a Camel or a Phillip Morris, or between Schlitz and Miller.

What such a literal understanding of the product-consumer relationship fails to consider is that *the value of a brand and its overall symbolic effects on the consumer cannot be teased apart by tests oriented toward seeing the product in its barest, utilitarian terms.*

Another way of saying this is that the consumer purchases the brand and its cluster of meanings as much as he purchases the literal product. What Vance Packard calls "hidden persuasion" is probably the reference-group and other symbolic values implied in most social communication.[7]

The function of advertising is to create strong sub-categories of values and needs within the social structure, and to associate these with the product. Consumers may then select those brands whose sets of implied experiences fit into the sub-group with which he identifies.

The *Chicago Tribune* study on cigarettes and smokers clearly indicated that it is as reasonable to talk about the man who smokes Camels, for example, as having a "Camel personality" as it is to say that the brand itself has a personality.[8] It is reasonable because the two are correlates of each other. To the extent that the consumer perceives the brand image in this stable, predictable (and pleasurable) manner, the brand becomes a need-satisfying monopoly rather than a competitor with other brands. The power of the monopoly is dependent on the degree to which the brand is differentiated from other brands and is pleasurable at the same time.

If this aspect of the function of advertising is recognized, much of the arrogant and sanctimonious tone in some advertising can be relieved and a positive program of distinctive image development put in its place.

This relationship between the consumer and the brand must be understood by the advertiser in the earliest stages of planning if some measure of control and predictability in one's message is to be realized. If it is believed that facial tissue "A" can appeal to an important part of the market not adequately tapped by facial tissue "B," its advertisers must understand both

[7] Vance Packard, *The Hidden Persuaders* (New York, David McKay Company, Inc., 1957).

[8] *Cigarettes: Their Role and Function, A Study for the Chicago Tribune,* prepared by Social Research, Inc., Chicago, 1953.

the expectancies of this market and how advertising might serve to fit in with, reinforce and organize these sets into a satisfying perceptual whole.

DIRECT EXPERIENCE WITH THE PRODUCT AS A SOURCE OF MEANING

The third perceptual area is that of direct experience, the *use* which classical theory states determines the *utility* of the product and ultimately its demand. By direct experience with a product, a consumer finally gets his "feedback" in terms of social gratifications and primary sensory experiences that the brand image and cultural definitions have set up for him.

In a sense, the consumer is not fully open to his experiences and is not likely to perceive all the stimuli of a product. His own needs, in conjunction with the social conceptions reinforced by the imagery surrounding the product, emphasize certain aspects of direct experience and weed out others.

In some research on the ballpoint pen, for example, consumers were asked to describe their *writing* experiences with three brands of pens. One of these pens is a brand which stresses efficiency and predictability. The second brand emphasizes a general quality of competence, including prestige and status. The third brand focuses on inexpensiveness and dispensability.

Consumers described their experiences with the pens in terms of the generalized brand image, giving evidence of an awareness of how they were oriented toward the product. It is fairly evident that technical product improvements alone, unless they are highly dramatic or extreme, do not radically alter the consumer's previous ideas about the product. Some outside agent must serve to create a new expectation about the product that will allow the consumer to perceive the difference.

Advertising and Direct Experience with the Product

The function of advertising in this third area of consumer perception is to supply the *terms* in which the product is valued. In some ways advertising sets up a "self-fulfilling prophecy."[9] Most researchers are aware that a consumer's reaction to use is channeled in an important way by what he expects to experience. The terms in which the consumer responds to use are, in good part, supplied by advertising. The facets of experience beyond the scope of advertising are the concrete physiological sensations of the consumer.

Nor can broad organizing concepts, such as a cultural definition or a brand image, account for the unpredicted idiosyncrasies of either the consumer or the product. However, by the time the consumer has selected and organized all the communications of the product, he will evaluate the use experience in a fairly patterned manner.

[9] Robert K. Merton, "The Self-Fulfilling Prophecy," in Robert K. Merton, *Social Theory and Social Structure* (Glencoe, The Free Press, 1949),

Too often, the advertiser is so close to competitive aspects of his product that he has personally defined it in a manner that is not of optimum value to the consumer. Competition often causes advertisers to "hop on the current bandwagon" of advertising claims and to shout loudly about values that have little positive meaning to the consumer. In the automobile industry, a complex language of power dynamics has been foisted upon the consumer. Is this the optimum language of use available for him? In filter cigarettes, the language of use among certain competitive brands has been the number of filter-traps contained in the cigarette. Is the filter-cigarette smoker aided in getting gratification out of a cigarette by a terminology that concentrates upon the negatives of smoking?

The advertiser might improve his relationship with the consumer if he realised that his characterization of the consumer's use-experience helps the latter selectively perceive out of the product's numerous stimulations. Direct experience with a product is patterned by the communicable language of the product which has been created or reinforced by advertising.

37 / *What We Know about the Effects of Mass Communication : the Brink of Hope*

JOSEPH T. KLAPPER

According to the author of this article the "brink of hope" for research in mass communications lies in a new approach to its study. This article contains a description of the desired orientation, the resulting generalizations, and the findings which may yield a body of organized knowledge significant for decision making regarding advertising and related activities.

TWENTY years ago writers who undertook to discuss mass communication typically felt obliged to define that unfamiliar term. In the intervening years conjecture and research upon the topic, particularly in reference to the effects of mass communication, have burgeoned. The literature has reached that stage of profusion and disarray, characteristic of all burgeoning disciplines, at which researchers and research administrators speak wistfully of establishing centers where the cascading data might be sifted and stored. The field has grown to the point at which its practitioners are periodically asked by other researchers to attempt to assess the cascade, to determine whither we are tumbling, to attempt to assess, in short, "what we know about the effects of mass communication." The present paper is one attempt to partially answer that question.

The author is well aware that the possibility of bringing any order to this field is regarded in some quarters with increasing pessimism. The paper will acknowledge and document this pessimism, but it will neither condone nor share it. It will rather propose that we have come at last to the brink of hope.

THE BASES OF PESSIMISM

The pessimism is, of course, widespread and it exists both among the interested lay public and within the research fraternity.

Some degree of pessimism, or even cynicism, is surely to be expected from the lay public, whose questions we have failed to answer. Teachers, preachers, parents, and legislators have asked us a thousand times over these past

SOURCE : From *The Public Opinion Quarterly*, vol. 24, Winter, 1958, pp. 453-466 and 469-476. Joseph T. Klapper : Research Associate, Bureau of Applied Social Research, Columbia University.

fifteen years whether violence in the media produces delinquency, whether the media raise or lower public taste, and just what the media can do to the political persuasions of their audiences. To these questions we have not only failed to provide definitive answers, but we have done something worse: we have provided evidence in partial support of every hue of every view. We have on the one hand demonstrated that people's existing tastes govern the way they use media,[1] and on the other hand reported instances in which changed media usage was associated with apparently altered tastes.[2] We have hedged on the crime and violence question, typically saying, "Well, probably there is no causative relationship, but there just might be a triggering effect."[3] In reference to persuasion, we have maintained that the media are after all not so terribly powerful,[4] and yet we have reported their impressive successess in such varied causes as promoting religious intolerance,[5] the sale of war bonds,[6] belief in the American Way,[7] and disenchantment with boy scout activities.[8] It is surely no wonder that a bewildered public should regard with cynicism a research tradition which supplies, instead of definitive answers, a plethora of relevant but inconclusive, and at times seemingly contradictory, findings.

Considerable pessimism, of a different hue, is also to be expected within the research fraternity itself. Such anomalous findings as have been cited above seemed to us at first to betoken merely the need of more penetrating and rigid research. We shaped insights into hypotheses and eagerly set up research designs in quest of the additional variables which we were sure would bring order out of chaos, and enable us to describe the process of effect with sufficient precision to diagnose and predict. But the variables emerged in such a cataract that we almost drowned. The relatively placid waters of *"who* says *what* to *whom"* were early seen to be muddied by audience predispositions, "self-selection," and selective perception. More recent studies, both in the laboratory and the social world, have documented the influence of a host of other variables, including various aspects of

[1] E.g., Lazarsfeld (1940), pp. 21-47; Wiebe (1952), pp. 185 ff.

[2] E.g., Lazarsfeld (1940), pp. 126 ff.; Suchman (1941). Both Lazarsfeld and Suchman point out that although media may seem to be causative agents, further research reveals that their influence was energized by other factors. The point is discussed at length below.

[3] This is the typical, if perhaps inevitable conclusion, of surveys of pertinent literature and comment. See, for example, Bogart (1956), pp. 258-274.

[4] E.g., Lazarsfeld and Merton (1949); Klapper (1948). The point is elaborately demonstrated in regard to political conversion in Lazarsfeld, Berelson, and Gaudet (1948), and in Berelson, Lazarsfeld, and McPhee (1954).

[5] Klapper (1949), pp. 11-25; IV-47, IV-52.

[6] Merton (1946).

[7] The efficacy, as well as the limitations, of media in this regard, are perhaps most exhaustively documented in the various unclassified evaluation reports of the United States Information Agency.

[8] Kelley and Volkhart (1952).

contextual organization;[9] the audiences' image of the source;[10] the simple passage of time;[11] the group orientation of the audience member and the degree to which he values group membership;[12] the activity of opinion leaders;[13] the social aspects of the situation during and after exposure to the media,[14] and the degree to which the audience member is forced to play a role;[15] the personality pattern of the audience member,[16] his social class, and level of his frustration;[17] the nature of the media in a free enterprise system,[18] and the availability of "social mechanism[s] for implementing action drives."[19] The list, if not endless, is at least overwhelming, and it continues to grow. Almost every aspect of the life of the audience member and the culture in which the communication occurs seems susceptible of relation to the process of communicational effect. As early as 1948, Berelson, cogitating on what was then known, came to the accurate if perhaps moody conclusion that "some kinds of *communication* on some kinds of *issues,* brought to the attention of some kinds of *people* under some kinds of *conditions* have some kinds of *effects.*"[20] It is surely no wonder that today, after eight more years at the inexhaustible fount of variables, some researchers should feel that the formulation of any systematic description of what effects are how effected, and the predictive application of such principles, is a goal which becomes the more distant as it is the more vigorously pursued.

This paper, however, takes no such pessimistic view. It rather proposes that we already know a good deal more about communications than we

[9]The effect of such variables as the number of topics mentioned, the order of topics, camera angles, detail of explanation, explicitness vs. implicitness, one side vs. both sides, and a host of other contextual variables has been exhaustively studied in virtually thousands of experiments conducted under the auspices of the U.S. Navy, the U.S. Army, and Pennsylvania State University, as well as by individual investigators. Summaries of several such studies will be found, *passim,* in Hovland, Lumsdaine, and Sheffield (1949) and Hovland, Janis, and Kelley (1953).

[10] E.g., Merton (1946), pp. 61 ff.; Freeman, Weeks and Wertheimer (1955); Hovland, Janis, and Kelley (1953), ch. 2, which summarizes a series of studies by Hovland, Weiss, and Kelman.

[11] Hovland, Lumsdaine, and Sheffield (1949), in re "sleeper effects" and "temporal effects."

[12] E.g., Kelley and Volkhart (1952); Riley and Riley (1951); Ford (1954); Katz and Lazarsfeld (1955) review a vast literature on the subject (pp. 15-133).

[13] Katz (1957) provides an exhaustive review of the topic.

[14] E.g., Friedson (1953). For an early insight, see Cooper and Jahoda (1947).

[15] Janis and King (1954), King and Janis (1953), and Kelman (1953), all of which are summarized and evaluated in Hovland, Janis, and Kelley (1953); also Michael and Maccoby (1953).

[16] E.g., Janis (1954); also Hovland, Janis, and Kelley (1953), ch. 6.

[17] E.g., Maccoby (1954).

[18] E.g., Klapper (1948); Klapper (1949), pp. IV-20-27; Wiebe (1952).

[19] Wiebe (1951-2).

[20] Berelson (1948), p. 172.

thought we did, and that we are on the verge of being able to proceed toward even more abundant and more fruitful knowledge.

THE BASES OF HOPE

This optimism is based on two phenomena. The first of these is a new orientation toward the study of communication effects which has recently become conspicuous in the literature. And the second phenomenon is the emergence, from this new approach, of a few generalizations. It is proposed that these generalizations can be tied together, and tentatively developed a little further, and that when this is done the resulting set of generalizations can be extermely helpful. More specifically, they seem capable of organizing and relating a good deal of existing knowledge about the processes of communication effect, the factors involved in the process, and the direction which effect typically take. They thus provide some hope that the vast and ill-ordered array of communications research findings may be eventually molded, by these of other generalizations, into a body of organized knowledge.

This paper undertakes to cite the new orientation, to state what seem to be the emerging generalizations, and to at least suggest the extent of findings which they seem capable of ordering. In all of this, the author submits rather than asserts. He hopes to be extremely suggestive, but he cannot yet be conclusive. And if the paper bespeaks optimism, it also bespeaks the tentativeness of exploratory rather than exhaustive thought. Explicit note will in fact be taken of wide areas to which the generalizations do not seem to apply, and warnings will be sounded against the pitfalls of regarding them as all-inclusive or axiomatic.

The Phenomenistic Approach. The new orientation, which has of course been hitherto and variously formulated, can perhaps be described, in a confessedly oversimplified way, as a shift away from the concept of "hypodermic effect"[21] toward an approach which might be called "situational," "phenomenistic," or "functional." It is a shift away from the tendency to regard mass communication as a necessary and sufficient cause of audience effects, toward a view of the media as influences, working amid other influences, in a total situation. The old quest of specific effects stemming directly from the communication has given way to the observation of existing conditions or changes—followed by an inquiry into the factors, including mass communication, which produced those conditions and changes, and the roles which these factors played relative to each other. In short, attempts to assess a stimulus which was presumed to work alone have given way to an assessment of the role of that stimulus in a total observed phenomenon.

Examples of the new approach are fairly numerous, although they still represent only a small proportion of current research. The so-called Elmira[22]

[21] Berelson, Lazarsfeld, and McPhee (1954), p. 234.
[22] *Ibid.*

and Decatur[23] studies, for example, set out to determine the critical factors in various types of observed decisions, rather than focusing exclusively on whether media did or did not have effects. McPhee, in theoretical vein, proposes that we stop seeking direct media effects on taste and inquire instead into what produces taste and how media affect that.[24] The Rileys and Maccoby focus on the varying functions which media serve for different sorts of children, rather than inquiring whether media do or do not affect them.[25] Some of the more laboratory-oriented researchers, in particular the Hovland school, have been conducting ingeniously designed controlled experiments in which the communicational stimulus is a constant, and various extra-communicational factors are the variables.[26]

This new approach, which views mass media as one among a series of factors, working in patterned ways their wonders to perform, seems to the author to have made possible a series of generalizations which will now be advanced. They are submitted very gingerly. They seem to the author at once extremely generic and quite immature; they seem on the one hand to involve little that has not been said, and on the other hand to be frightfully daring. They do seem, however, to be capable of relating a good deal of data about the processes, factors, and directions of communication effects, and of doing this in such a way that findings hitherto thought anomalous or contradictory begin to look like orderly variations on a few basic themes.

Emerging Generalizations. The entire set of generalizations will first be presented in their bare bones, and without intervening comment. The remainder of this paper will be devoted to justifying their existence and indicating the range of data which they seem able to organize. Without further ado, then, it is proposed that we are as of now justified in making the following tentative generalizations :

1. Mass communication ordinarily does not serve as a necessary and sufficient cause of audience effects, but rather functions among and through a plexus of mediating factors and influences.

2. These mediating factors are such that they typically render mass communication a contributory agent, but not the sole cause, in a process of reinforcing the existing conditions. (Regardless of the condition in question—be it the level of public taste, the tendency of audience members toward or away from delinquent behavior, or their vote intention—and regardless of whether the effect in question be social or individual, the media are more likely to reinforce than to change.)

[23] Katz and Lazarsfeld (1955).
[24] McPhee (1953).
[25] Riley and Riley (1951), and Maccoby (1954).
[26] E.g., the experimental program described in Hovland, Janis, and Kelley (1953).

3. On such occasions as mass communication does function in the service of change, one of two conditions is likely to obtain. Either :

a. the mediating factors will be found to be inoperative, and the effect of the media direct; or

b. the mediating factors, which normally favor reinforcement, will be found to be themselves impelling toward change.

4. There are certain residual situations in which mass communication seems to wreak direct effects, or to directly and of itself serve certain psychophysical functions.

5. The efficacy of mass communication, either as contributory agents or as agents of direct effect, is affected by various aspects of the media themselves or of the communication situation (including, for example, aspects of contextual organization, the availability of channels for overt action, etc.).

Therewith the generalizations, and herewith the application. The schemata will be applied first to the field of persuasive communication, and then, much more briefly, to the data dealing with the effects of mass communication on the levels of audience taste. The hope, in each case, is to show that the data support the generalizations, and that the generalizations in turn organize the data and suggest new avenues of logically relevant research.

THE GENERALIZATIONS APPLIED : PERSUATION

Persuasive communication here refers to those communications which are intended to evoke what Katz and Lazarsfeld have called "campaign" effects,[27] i.e. to produce such short-term opinion and attitude effects as are typically the goals of campaigns—political, civic, or institutional. Long-range phenomena, such as the building of religious values, are not here a focus of attention, nor are the marketing goals of most advertising.

Reinforcement. It is by now axiomatic that persuasive communication of the sort we are discussing is far more often associated with attitude reinforcement than with conversion. The new classic *People's Choice* found reinforcement, or constancy of opinion, approximately ten times as common as conversion among Erie Country respondents exposed to the presidential campaign of 1940,[28] and a nine to one ratio was found in the more elaborate study of Elmira voters in 1948.[29] Various other studies have attested that, in general, when the media offer fair in support of both sides of given issues, the dominant effect is stasis, or reinforcement, and the least common effect is conversion.

[27] Katz and Lazarsfeld (1955), pp. 17 ff.
[28] Lazarsfeld, Berelson, and Gaudet (1948).
[29] Berelson, Lazarsfeld, and McPhee (1954).

But we are not here proposing merely that the media are more likely to reinforce than to convert. We are also proposing, as some others have proposed before us,[30] and as we have stated in generalization number 1, that the media typically do not wreak direct effects upon their audiences, but rather function among and through other factors or forces. And we are going slightly farther by proposing, in generalization number 2, that it is these very intervening variables themselves which tend to make mass communication a contributing agent of reinforcement as opposed to change. We shall here note only a few such variables, deliberately selecting both from among the long familiar and the newly identified, in order to suggest the extent of findings for which this generalization seems able to account, and which, seen in this light, become logically related manifestations of the same general phenomenon.

Audience predispositions, for example, have been recognized since the very beginnings of communications research as a controlling influence upon the effect of persuasive mass communication. A plethora of studies, some conducted in the laboratory and some in the social world, have demonstrated that such predispositions and their progeny—selective exposure,[31] selective retention, and selective perception—intervene between the supply of available mass communication stimuli and the minds of the audience members.[32] They wrap the audience member in a kind of protective net, which so sifts or deflects or remoulds the stimuli as to make reinforcement a far more likely effect than conversion.

Let us turn from these very old friends to newer acquaintances. Communications research has recently "rediscovered" *the group.* Katz and Lazarsfeld, drawing on the literature of small group research, have proposed, with considerable supporting evidence, that primary-type groups to which the audience member belongs may themselves function as reinforcing agents and may influence mass communication to do likewise.[33] People tend, for example, to belong to groups whose characteristic opinions are congenial

[30] For explicit statements, see McPhee (1953) and Meyersohn (1957). Similar orientations are implicit in Katz (1957), in all studies cited in footnotes 22-26 above, and in various other works.

[31] "Selective exposure" seems to the author a somewhat more realistic term than the classic "self-selection." It is in a sense true that a given program "selects its audience before it affects it" (Lazarsfeld, 1940, p. 134), i.e., that it acts like a sieve in screening its particular audience from among the vast potential audience of all media offerings. But the sieve works, after all, only because the people, rather than the program are, consciously or unconsciously, selective.

[32] No attempt can be made to cite here the hundreds of studies which demonstrate one or more of these processes. Summaries of a considerable number which appeared during or before the late 1940's will be found in Klapper (1949), pp. Intro 11-12, 1-15-26, and IV-27-33. For a particularly intriguing demonstration of selective exposure, see Geiger (1950), and for an extraordinarily elaborate demonstration of selective perception, see Wilner (1951).

[33] Katz and Lazarsfeld (1955), pp. 15-133.

with their own; the opinions themselves seem to be intensified, or at least made more manifest, by intra-group interaction; and the benefits, both psychological and social, of continued membership in good standing act as a deterrent against opinion change. Group-anchored norms thus serve, on a conscious or unconscious level, to mediate the effects of communications. The proposition has been empirically demonstrated by Kelley and Volkhart,[34] who found that, in general, persuasive communications were more likely to be rejected if they were not in accord with the norms of groups to which the audience member belonged; there were indications, furthermore, that the tendency was intensified in regard to issues more salient to the group, and among persons who particularly valued their membership. Groups are further likely to supplement the reinforcing effect by providing areas for oral dissemination. Various studies have shown that communications spread most widely among persons of homogeneous opinion, and especially among those who agree with the communication to begin with.[35] The "rediscovered group," in short, intervenes between the media stimuli and the people who are affected, and it does so, other conditions being equal, in favor of reinforcement.

Consider another phenomenon which is now in the limelight of communication research : *opinion leadership,* or, as it is sometimes called, "the two-step flow of communication."[36] The operation of such leadership is by definition interventive. And opinion leaders, it turns out, are usually supernormative members of the same groups to which their followers belong—i.e., persons especially familiar with and loyal to group standards and values.[37] Their influence therefore appears more likely to be exercised in the service of continuity than of change, and it seems therefore a reasonable conjecture —although it has not, to the author's knowledge, been specifically documented—that their role in the process of communication effect is more likely to encourage reinforcement than conversion.

All the intervening phenomena which have thus far been cited pertain, in one way or another, to the audience members—to the element of *whom* in the old Laswell formula. But the range of mediating influences is not so restricted. *The nature of mass communication* in a free enterprise society, for example, falls under this same rubric. It is surely not necessary to here rehearse in detail the old adage of how the need for holding a massive audience leads the media, particularly in their entertainment fare, to hew to the accepted, and thus to tend to resanctify the sanctified.[38] But it should here be noted that this is to say that the demands of the socio-economic system

[34] Kelley and Volkhart (1952), and Kelley (1955), both of which are summarized in Hovland, Janis, and Kelley (1953), Ch. 5.

[35] E.g., Katz and Lazarsfeld (1955), pp. 82-115; also Katz (1957).

[36] Katz and Lazarsfeld (1955), pp. 309-320, and Katz (1957).

[37] Katz and Lazarsfeld (1955), pp. 82-115, and 219-334 *passim,* especially pp. 321 ff.; also Katz (1957).

[38] E.g., Klapper (1948); Klapper (1949), pp. IV-20-27; Wiebe (1952).

mediate the possible effects of mass communication in the direction of social reinforcement.

Such phenomena as these lend some credence to the proposition that the media typically work among and through other forces, and that these intervening forces tend to make the media contributing agents of reinforcement. And the generalization, to which these factors lend credence, in turn serves to organize and relate the factors. Diverse though they may be, they are seen to play essentially similar roles. One is tempted to wonder if they do not constitute a definable class of forces—whether, if the process of communicational effect were reduced to symbolic formulation, they might not be severally represented as, say, Q_1, Q_2, and so forth to Q_n .The author does not propose anything so drastic. He merely notes that the generalization suggests it. It suggests, simultaneously, relevant topics for further research. *Do* opinion leaders actually function, as the generalization suggests, to render mass communication a more likely agent of reinforcement than of change? And what of all those Q's between Q_3 or Q_8 and Q_n ? What other phenomena function in a similar manner and toward the same end?

We may note also that this generalization, simple though it is, not only accounts for such factors as provide its life blood. It provides as well a sort of covering shed for various bits and pieces of knowledge which have hitherto stood in discrete isolation.

Consider, for example, the phenomenon of *"monopoly propaganda"*—i.e., propaganda which is vigorously and widely pursued and nowhere opposed. Monopoly propaganda has been long recognized as widely effective, and monopoly position has been cited as a condition which virtually guarantees persuasive success.[39] But monopoly propaganda can exist only in favor of views which already enjoy such wide sanction that no opposition of any significance exists. Viewed in the light of the generalization, monopoly position is seen not as an isolated condition of propaganda success, but as a specific combination of known factors. It is a name for the situation in which both the media and virtually all the factors which intervene between the media and the audience, or which operate co-existently with the media, approach a homogeneity of directional influence. Monopoly position is, as it were, a particular setting of the machine, and its outcome is logically predictable.

Change, with Mediators Inoperative. Generalization number 3 recognizes that although the media typically function as contributory agents of reinforcement, they also function as agents of attitude change. In reference to this simple point, there is surely no need for lengthy documentation: the same studies that find reinforcement the predominant effect of campaigns typically reveal as well some small incidence of conversion, and a plethora of controlled experiments attest that media, or laboratory approximations of media, can and often do shift attitudes in the direction intended by the communicator.

[39] E.g., Lazarsfeld and Merton (1949); Klapper (1948) and Klapper (1949), pp. IV-20-27.

But the generalization further proposes—and in this it is more daring than its predecessors—that such attitude changes occur when either of two conditions obtain: when the forces which normally make for stasis or reinforcement are inoperative, or when these very same forces themselves make for change.

Let us consider first the proposition that change is likely to occur if the forces for stasis are inoperative. A set of experiments which has already been mentioned above is extremely indicative in reference to this proposition. Kelley and Volkhart, it will be recalled, found that, in general, communications opposed to group norms were likely to be rejected if the issue was particularly salient to the group, and that they were more likely to be rejected by persons who particularly valued their group membership. But there is another side to the Kelley-Volkhart coin, viz., the findings that the communication opposed to group norms was more likely to be *accepted when the issue was not particularly salient* to the group, and that it was more likely to be accepted *by persons who did not particularly value their membership* in the group.[40] Put another way, *changes were more likely to occur in those situations in which the mediating effect of the group was reduced.*

A whole slew of other findings and bits of knowledge, both old and new, and previously existing as more or less discrete axioms, seem susceptible of being viewed as essentially similar manifestations of this same set of conditions. It has long been known, for example, that although the media are relatively ineffectual in conversion, they are quite effective in forming opinions and attitudes in regard to *new issues,* particularly as these issues are the more unrelated to "existing attitude clusters."[41] But it is precisely in reference to such issues that predispositions, selective exposure, and selective perception are least likely to exist, that group norms are least likely to pertain, that opinion leaders are least ready to lead—that the mediating forces of stasis, in short, are least likely to mediate. The intervening forces, in short, are likely to be inoperative, and the media are more likely to directly influence their audience.

Much the same explanation can be offered for the observed ability of the media to influence their audience on peripheral issues[42] while simultaneously failing in the major mission of the moment, and the same situation probably obtains in regard to media's ability to *communicate facts or even change opinions on objective matters without producing the attitude changes* that such facts and opinions are intended to engender.[43] It may well be that the facts and opinions are not related to the desired attitude change suffi-

[40] Kelley and Volkhart (1952) and Kelley (1955), both of which are summarized in Hovland, Janis, and Kelley (1953), Ch. 5. As noted above, the findings are highly indicative, but not absolutely clear cut.

[41] Berelson (1948), p. 176.

[42] E.g., McPhee (1953), pp. 12-13; also Hovland (1954).

[43] Hovland, Lumsdaine, and Sheffield (1949), pp. 42 ff. and elsewhere, *passim;* summarized in Klapper (1949), pp. IV-9-17.

ciently strongly to call the protective mediating forces into play: the communication content is probably not recognized as necessarily relevant to the attitude, as not salient, and mediation does not occur. This interpretation, by the way, could very easily be tested.[44]

The inverse correlation between the capability of the media to wreak attitude change and the degree to which the attitude in question is ego-involved may well be another case in point.[45] But this paper cannot analyze and rehearse, nor has the author wholly explored, the entire range of phenomena which might be explained on the basis of the forces for stasis being inoperative. If the generalization is at all valid, it will gather such phenomena unto itself. Let it be the role of this paper to present it, to germinate as it will.

Changes through Mediators. Let us turn now to the second part of the proposition about the conditions under which media may serve as agents of opinion change. It has been suggested that such an effect is likely when either of two conditions obtain: when the forces for stasis are inoperative—as in the cases which have just been discussed—and, secondly, when the intervening forces themselves favor change.

Let us look again, for example, at the influence of group membership and of group norms. These typically mediate the influences of mass communication in favor of reinforcement, but under certain conditions they may abet communicational influences for change.

In an ingeniously designed experiment by McKeachie,[46] for example, communications regarding attitudes toward Negroes, and the discussion which these communications engendered, made some group members aware that they had misperceived the pertinent group norms. The great majority of which individuals showed opinion changes in the direction of the norm, which was also the direction intended by the communication. The *newly perceived norms* impelled the audience toward the communicationally recommended change.

[44] A rather simple controlled experiment might be set up, for example, in which two groups were exposed to communications, one of which merely presented the objective facts, and the other of which explicitly pointed out the implications for attitude change of accepting the objective facts. In line with the interpretation presented above, we would hypothesize that in the latter communication the *objective facts themselves* would be more likely to be rejected. Such an experiment would differ from the numerous studies of the relative efficacy of "implicit" vs. "explicit" conclusions, which have to date been primarily concerned with whether the *conclusions*, rather than the facts themselves, were more or less likely to be accepted.

[45] For what, after all, is an "ego-involved attitude," other than an attitude which is particularly salient to the person who holds it, and thus particularly well protected by predispositions, selective perception and the like? For an amusing statement of a similar view; see "John Crosby's Law," as quoted in Bogart (1956), p. 215. Suggestively relevant studies are numerous and include, e.g., Cooper and Jahoda (1947); Cooper and Dinerman (1951); Wilner (1951); Cannel and MacDonald (1956); and various others.

[46] McKeachie (1954).

A *switch in group loyalties or in reference groups* may likewise predispose an individual toward consonant opinion changes suggested by mass communication.[47] Studies of satellite defectors, for example, suggest that persons who have lived for years as respected members of Communist society, and then fall from grace, develop a new susceptibility to Western propaganda. As their lot deteriorates, they turn their eyes and minds to the West, and their radio dials to VOA and RFE. By the time they defect they have developed a set of extremely anti-Communist and pro-Western attitudes, quite out of keeping with their previous lives, but in accord with what they regard as normative to their new refugee primary group.[48]

Groups norms, or predispositions otherwise engendered, may furthermore become dysfunctional; in learning theory terminology, the response they dictate may cease to be rewarding, or may even lead to punishment. In such situations the individual is impelled to find a new response which does provide reward, and communications recommending such a changed response are more likely to be accepted. Some such phenomenon seems to have occurred, for example, in the case of Nazi and North Korean soldiers who remained immune to American propaganda appeals while their military primary group survived, but became susceptible when the group disintegrated and adherence to its normative attitudes and conduct ceased to have survival value.[49] The accustomed group norms in such instances had not merely become inoperative; they had become positively dysfunctional and had sensitized and predisposed their adherents to changes suggested by the media.

Personality pattern appears to be another variable which may mediate the influence of communications, and particular syndromes seem to abet change. Janis, for example, found in a laboratory study that those of his subjects "who manifested social inadequacy, inhibition of aggression, and depressive tendencies, showed the greatest opinion change" in response to persuasive communication. They appeared, as Hovland puts it, to be "predisposed to be highly influenced."[50]

In sum, it appears that the generalization is supported by empirical data—that intervening variables which mediate the influence of mass communication, and which typically promote reinforcement, may also work for change. And again, the generalization, in turn, accounts for and orders the data on which it is based. Group membership, dysfunctional norms, and particular personality patterns can be viewed as filling similar roles in the process of communicationally stimulated opinion change. Other similarly operative variables will

[47] E.g., Katz and Lazarsfeld (1955), pp. 66-81.

[48] The phenomenon has not been explicitly detailed, but is implicit in various studies performed for the United States Information Agency, and in Kracauer and Berkman (1956).

[49] E.g., Shils and Janowitz (1948); also Schramm (1954), pp. 17-18.

[50] Janis (1954), which is summarized in Hovland, Janis, and Kelley (1953), pp. 276 ff. (Quotes are from p. 277).

doubtless be identified by a continued phenomenistic approach, i.e., by the analysis of accomplished opinion changes.

The generalization furthermore serves, as did the others, to relate and explain various discrete findings and isolated bits of knowledge. It would appear to cover, for example, such hitherto unrelated phenomena as the susceptibility to persuasive appeals of persons whose primary group memberships place them under cross-pressures, and the effects of what Hovland has called "role playing."[51]

The first case—*the susceptibility to persuasive communications of persons whose primary group membership places them under cross-pressure*[52]—is fairly obvious. In terms of the generalization, such people can be said to be at the mercy of mediating factors which admit and assist communicational stimuli favoring both sides of the same issue. We may also observe that any attitude shift which such a person may make toward one side of the issue does not necessarily entail any reduction of the forceful mediation toward the other direction. On the basis of the generalization, we would therefore predict not only change, but inconstancy, which has in fact been found to be the case.[52a]

The effects of role playing seem another, if less obvious, example of opinion change occurring as a result of a mediating, or, in this case, a superimposed factor which in turn rendered a communication effective. Hovland reported that if persons opposed to a communication are forced to defend it, i.e., to act in a public situation as though they had accepted the recommended opinion, they become more likely actually to adopt it.[53] The crucial element of role playing is, of course, artificially superimposed. But in any case, the entire phenomenon might be viewed as something very akin to what occurs when an old norm or an old predisposition ceases to lead to reward. Successful role playing in fact invests the opposing response with reward. The communication is thus given an assist by the imposition of new factors which favor change. The potentialities of this technique, incidentally, are of course appalling. The Communists have already developed and refined it and we have christened the process "brain-washing."

Various other bits of knowledge about communication effect can be viewed as related manifestations of this same general phenomenon, i.e., the phenomenon of communications inducing attitude change through the assistance of mediating factors which themselves favor change. But it is the goal of this paper to be only suggestive, rather than exhaustive or exhausting, and thus generalization number three may be here left to suggest whatever it will.

So much, then, for the first three generalizations, which attempt to relate the processes, the factors, and the directions of effect. It is hardly germane,

[51] Hovland, Janis, and Kelley (1953), Ch. 7.
[52] E.g., Berelson, Lazarsfeld, and McPhee (1954); also Kriesberg (1954).
[52a] Lazarsfeld, Berelson, and Gaudet (1948), p. 70.
[53] Hovland, Janis, and Kelley (1953), Ch. 7.

at this juncture, to belabor generalizations four and five. They serve only to recognize residual categories. Thus number four merely points out that some persuasive or quasi-persuasive effects do appear, at least to our present state of knowledge, to be direct. The apparently unmotivated learning of sufficiently repeated facts or slogans is a case in point. And generalization number five merely points out that the persuasive efficacy of the media is known to be affected by numerous variables pertaining to the content, the medium itself, or the communication situation—by such matters, for example, as the number and order of topics, the degree of repetition, the likelihood of distraction, the objective possibilities of action, and the like. The proposed schemata suggests that these variables are of a different and residual order as compared with the kind of *mediating* variables which we have just been discussing.

We have thus far been laboring to make and document three points, viz., (1) the set of generalizations is supported by our knowledge of the effects of persuasive communications; (2) the generalizations organize, or bring into logical relation, or, if you will, "predict" in an *a posteriori* sense, a large portion of that knowledge; and (3) in so ordering the data they simultaneously suggest new and logically related avenues for further research....

SUMMATION AND CONCLUSIONS

It is time now to look quickly back over the ground we have covered, and to evaluate the set of generalizations which have been proposed—to inquire into what they have enabled us to do, and to note their weaknesses.

On the positive side, they appear to serve three major functions:

First, as this paper has been at some pains to demonstrate, the generalizations have permitted us in some measure to organize, or to account for, a considerable number of communications research findings which have previously seemed discrete, at times anomalous, and occasionally contradictory. The author submits, tentatively and with due humility, that the schemata has in fact made possible organization of several different orders:

...it has enabled us to relate the *processes* of effect and the *direction* of effect, and to account for the relative incidence of reinforcement and of change.

...it has provided a concept of the process of effect in which both reinforcement and change are seen as related and understandable outcomes of the same general dynamic.

...it has enabled us to view such diverse phenomena as audience predispositions, group membership and group norms, opinion leadership, personality patterns, and the nature of the media in this society, as serving similar functions in the process of effect—as being, if you will, all of a certain order, and distinct from such other factors as the characteristics of media content.

...it has enabled us to view such diverse phenomena as audience propaganda, new issues, and role-playing as manifestations of the same general process—as specific combinations of known variables, the outcomes of which were predictable.

So much for the organizational capabilities of the media. But note that this organization of existing data, even within so sketchy a framework as these generalizations provide, permitted us to see gaps—to discover, for example, that certain presumed outcomes have to date been neither documented nor shown not to occur. And thus the second contribution: the generalizations seem capable of indicating avenues of needed research, which are logically related to existing knowledge. Put another way, even this simple schemata seems capable of contributing to the cumulatibility of future research findings. This is in no way to gainsay that future thought and research must inevitably change the generalizations themselves. As presently formulated, they constitute only a single tentative step forward, and their refinement or emendation seems more likely to enlarge than to reduce the area of their applicability.

Finally, it is in the extent of this applicability, coupled with the foetal nature of the generalizations, that the author finds particular bases for hope. Sketchy and imperfect as they are, these propositions regarding the process and direction of effect seem applicable to the effects of persuasive communications, to the effects of mass communication on public taste, and, though it has not here been demonstrated, to the effects of specific media fare upon the psychological orientations and overt behavior patterns of the audience. Furthermore, the mediating variables to which they point—variables such as predisposition, group membership, personality patterns and the like—seem to play essentially similar roles in all these various kinds of effect. Even if these generalizations turn out to be wholly in error—and certainly they are imperfect—they seem nevertheless sufficiently useful and sufficiently applicable to justify the faith that *some* generalizations can in due time be made.

These particular generalizations, however, do not usher in the millennium. They are imperfect, and underdeveloped; they are inadequate in scope, and in some senses they are dangerous.

They do not, for example, cover the residuum of direct effects except to note that such effects exist. They are less easy to apply, and perhaps inapplicable, to certain other broad areas of effect, such as the effect of the existence of the media on patterns of daily life, on each other, and on cultural values as a whole. We have here spoken of cultural values as a mediating factor, which in part determines media content, but certainly some sort of circular relationship must exist, and media content must in turn affect cultural values.

Such concepts suggest what is perhaps the greatest danger inherent both in these generalizations and in the approach to communications research from which they derive. And that is the tendency to go overboard in blind-

ly minimizing the effects and potentialities of mass communication. In reaping the fruits of the discovery that mass media function amid a nexus of other influences, we must not forget that the influences nevertheless differ. Mass media of communication possess various characteristics and capabilities distinct from those of peer groups or opinion leaders. They are, after all, media of *mass* communication, which daily address tremendous cross-sections of the population with a single voice. It is neither sociologically unimportant nor insignificant that the media have rendered it possible, as Wiebe has put it, for Americans from all social strata to laugh at the same joke,[54] nor is it insignificant that total strangers, upon first meeting, may share valid social expectations that small talk about Betty Furness or Elvis Presley will be mutually comprehensible. We must not lose sight of the peculiar characteristics of the media, nor of the likelihood that of this peculiar character there may be engendered peculiar effects.

In any case, the most fruitful path for the future seems clear enough. It is not the path of abstract theorizing, nor is it the path, which so many of us have deserted, of seeking simple and direct effects of which media are the sole and sufficient cause. It appears rather to be the path of the phenomenistic approach, which seeks to account for the known occurrence and to assess the roles of the several influences which produced it, and which attempts to see the respondents not as randomly selected individuals each exchangeable for the other, but rather as persons functioning within particular social contexts. It is likewise the path of the cumulating controlled experiments in which the multifarious extra-media factors being investigated are built into the research design. These are the paths which have brought us to what seems the verge of generalization and empirically documented theory. They are the paths which have brought us to the brink of hope.

[54] Wiebe (1952).

38 / How Much to Spend on Advertising

JOEL DEAN

The planning of advertising outlays, at least theoretically, is subject to the same principles of marginal analysis that are applied to production problems. The difficulty is, of course, that advertising is but one variable affecting sales.

The author of this article appraises the principal methods which are used to determine the amount to be spent on advertising. He concludes that present methods have no economic basis and that despite its limitations, economic analysis can be helpful in reaching better decisions on how much to spend on advertising.

Every important enterprise in the country wrestles unhappily with the problem of how much to spend on advertising. Despite the vast amount of money involved in this decision, most executives have to play by ear. Few firms have a valid theoretical or research basis for deciding whether the advertising appropriation should be $100,000 or $200,000 a year. The purpose of this article is to appraise the principal methods that are now used for making this decision.

As a background for this appraisal we shall examine briefly the contribution of economic theory, specifically in the form of marginal analysis. Unavoidably, therefore, much of the discussion is in the no man's land between the abstract analysis of the economic theorist and the largely intuitive performance of the practitioner. The fact is that there is no sure or easy way to determine how much to spend on advertising, and the various methods widely used for that purpose have serious weaknesses which show up against a background of economic analysis.

CONTRIBUTION OF ECONOMIC THEORY

Economic analysis of the role of advertising (and other pure selling costs) in the competitive adjustment of the enterprise has developed concepts that can be made useful in planning and controlling advertising outlays.

AUTHOR'S NOTE : A number of people were kind enough to read this manuscript and suggest improvements : Stephen Taylor and Philip Brooks of Joel Dean Associates; Professors James Bonbright, Carl Shoup, and Howard Nixon of Columbia University; Ralph Cordiner and Robert Peare of the General Electric Company; and A. L. Nickerson of the Socony-Vacuum Oil Company.

For a fuller discussion of these and related thoughts see my forthcoming book, *Managerial Economics,* to be published by Prentice-Hall, Inc., in February 1951.

SOURCE : From *Harvard Business Review,* vol. 29, January-February, 1951, pp. 65-74. Joel Dean : Professor of Business Economics, Columbia University.

Economical analysis is a basic economic approach to all business problems, including the determination of the total advertising outlay, and it is, at least logically, superior to other methods. It says that advertising expenditures for each product should be pushed to the point where the additional outlay equals the profit from the added sales caused by the outlay. The resulting total is the advertising budget that will maximize advertising profits in the short run.

To implement this approach, a comparison is needed of what would happen with and without the advertising outlay in question. This knowledge of the marginal effect of advertising is extremely difficult to obtain. If the effect can be estimated with tolerable reliability, however, the marginal approach provides a rational solution, not only for the total budget but also for its allocation among years in the business cycle and among products, areas, and media.

Nature of Advertising Costs. The distinctive nature of advertising costs makes the analytical problem of determining the most profitable advertising outlay much more complex than an analysis using only production costs. Production costs (and physical distribution costs that behave like them) are functionally related to output (or sales) and can, therefore, be budgeted and controlled by such relationships. Advertising costs, in contrast, have no necessary functional relationship to output; they are a cause, not a result of sales.

Advertising, like pricing and product innovation, is a device for manipulating the firm's sales volume. Price affects the volume obtainable under specified demand conditions, while advertising and product improvement alter these conditions by changing the public attitude toward the product and thus shift the whole relation of sales to price. Hence profitability depends on the most advantageous combination of price, product improvement, advertising outlay, and other selling activities. Since the practical problem is often to get the right combination of advertising and other marketing activities, the problem of the advertising budget is not alone, "How much should the total selling effort be?" as economists have usually conceived it. It is also, "What part of the selling job should be done by impersonal, mass selling, as opposed to personal selling?"

These various influences are, of course, interactive. The price charged, for example, may affect the responsiveness of volume to additional advertising expenditures; changes in the product are almost certain to do so; and the price that will make the most money may be different when advertising is stepped up or when the product is improved.

For economic analysis, this is a problem of solving several simultaneous equations, an intellectually intriguing pastime that rarely makes sense or profits for businessmen. But the problem can easily be cut down to manageable proportions by restricting analysis to the short run, say one year, and by making some assumptions about prices and costs. We shall proceed to

develop this kind of analysis.

Simplified Marginal Approach. The marginal approach to advertising outlays is illustrated in its simplest form in Exhibit I. Advertising cost is assumed to include only pure selling costs, physical distribution costs being included in production costs. Incremental production costs (i.e., the added costs of producing an additional unit of the product) are assumed to

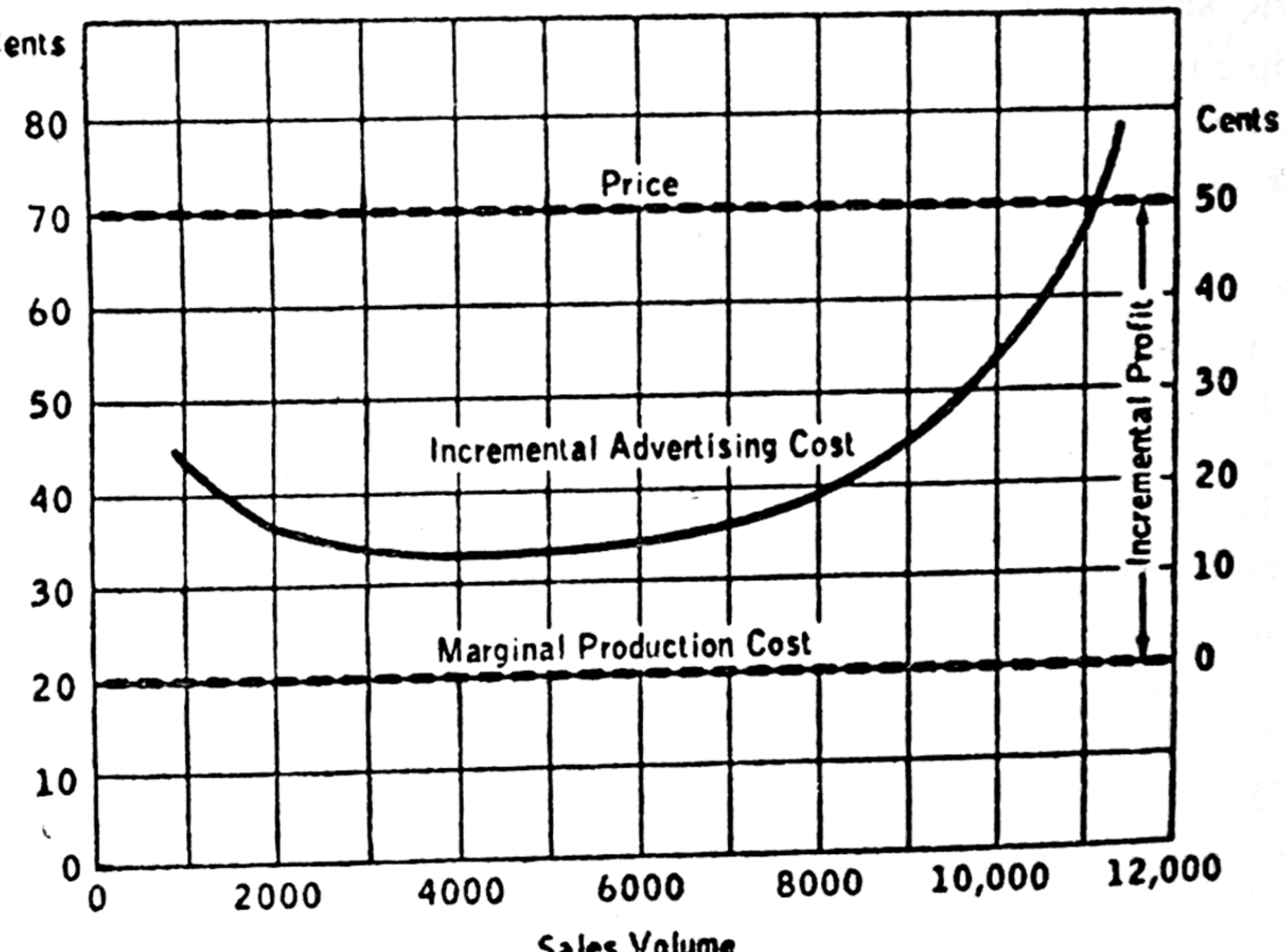


Exhibit I Example of Incremental Advertising Cost Curve

remain the same, 20 cents a unit, over the practical range of sales. The price of the product is also assumed to remain constant over this range. (Hence the average revenue and marginal revenue of economic theory are equal and constant.) Under these circumstances the incremental profit from an added sale is 50 cents a unit. Incremental advertising cost (i.e., the additional advertising outlay that will be required to sell an additional unit of output) is drawn as a curve which first declines, then is constant, and then rises at an accelerating rate.

The rising phase of the advertising cost curve represents the important part of our problem since, if advertising is to be done at all, it should be expanded until diminishing returns set in.

The upward turn in the curve reflects primarily the tapping of successively poorer prospects as the advertising effort is intensified. Presumably the most susceptible prospects are picked off first, and progressively stiffer resistance is encountered from layers of prospects who are more skeptical, more stodgy about their present spending patterns, or more attached to rival sellers. The rise may also be caused by progressive exhaustion of the most vulnerable geographic areas or the most efficient advertising media. Promotional channels that are ideally adapted to the scale and market of

the firm are used first. (Actually, for firms with expansible markets, the advertising cost curve may have several minimum points corresponding to most efficient use of different media appropriate for different-size markets, e.g., newspapers, billboards, magazines, radio.)

From the diagram it is clear that advertising should be pushed to the point where the advertising cost curve intersects the price line. Sales should not be expanded to a level where it costs more than 50 cents in advertising to get another sale, since that sale would bring only 50 cents of profit over incremental production costs. In general, advertising outlays should be increased in every market and medium up to the point where the additional cost of getting more business just equals the incremental profits from that business.

Considering the totals that appear in an income statement, rather than thinking in terms of increments, may clarify the results of our interpretation. The total production cost of a given output is represented on the diagram by the area under the incremental production cost curve up to that output. Similarly, the total sales revenue is shown by the area under the price line, and the total advertising cost by the area under the curve of incremental advertising cost. The area between the price line and the advertising cost curve is the total net profit left after advertising expenses and is clearly largest when output is at the point where marginal advertising cost is 50 cents a unit.

The assumptions underlying this simplified exposition are fairly realistic. A passive price policy is common enough, at least for short-run adjustments like those under study here. Hence a constant price (i.e., a price that is not changed as a result of changes in advertising outlays) is a moderately good approximation to reality. As to the cost assumption, empirical findings for industries whose production is mechanized indicate that incremental production costs are usually constant over the range of output that is significant for determining advertising policy in the short run. Finally, there is much theory and some empirical evidence to support the shape of the advertising cost function drawn here. Abstracting from fluctuations in business conditions and consumer incomes is a necessary simplification which sharpens the incremental character of the measurement problem, viz., to find the added sales with advertising, as against sales without it.

Limitations. The main hitch in the marginal approach is the difficulty of estimating incremental advertising cost. The relationship of advertising to sales is more intricate than short-run marginal analysis indicates; for example, the important and difficult problem of rivals' reactions is left out. Under most circumstances the difficulties of predicting response lags, gauging the quality of advertising, and allowing for the reservoir effcet of past advertising frustrate efforts to isolate the impact upon sales of additional advertising outlays.

Even when the advertising cost curve can be estimated with some re-

liability, the validity of the cut-off criterion proposed by marginal analysis comes into question, because much advertising is an investment rather than an expense. The objectives of advertising are often dominantly long-range, such as eternal life for the firm and a place in the sun. For example, advertising may be designed to step up volume to the point where savings of large-scale production and research are more than a match for any new entrants, or advertising may be focused on achieving product acceptance that will permit some price premium over less familiar brands. Long-range goals such as these are difficult to tie down to a concept of incremental profits that provides a definitive cut-off for advertising.

Despite these limitations inherent in static economic analysis, the marginal approach to determination of outlay makes a conceptual contribution of practical importance. Except for long-run investment advertising, it provides in concept a simple and definitive test of how much to spend and when to stop. As such it is useful as a guide in thinking about advertising appropriations and in determining what to shoot for in estimates—in short, in guiding empirical measurement. The fact that it manipulates esoteric functional relationships and assumes that the businessman has knowledge when he does not have it may restrict its immediate usefulness. But these very restrictions may broaden its future usefulness by raising the kind of questions that empirical research should try to answer.

Practical Application in Direct Mail. Perhaps the most promising area for applying the marginal approach quantitatively is direct mail advertising. Here the distorting conditions that make it hard to find the marginal cost of advertising are often at a minimum. Keyed responses make it possible to trace a large part of the results directly to a specific advertisement. Quality of copy can be held constant (or manipulated independently) by sending the identical copy to large numbers of prospects. The cumulative effects of advertising are usually less troublesome, and response lag is short enough so that cyclical changes do not cause important distortions. Finally, and perhaps most important, sectors or strata of prospects can be walled off and tapped separately.

These conditions make it possible to establish a ladder of susceptibility by sampling measurements of marginal advertising cost, and to set up a stop-loss signal based on incremental profit. An outline of the way a publisher might determine the amount to spend on direct mail advertising in promoting a specific book will illustrate how the incremental approach can be applied quantitatively in this sort of advertising. The procedure can be sketched by the following steps:

(1) Marshal the candidates for direct mailing in the form of mailing lists. These lists will vary in "quality," i.e., appropriateness for the particular book.

(2) Array the lists in a guessed ladder of susceptibility to direct mail advertising.

(3) Starting at the top of the ladder and working down, test each list by sending the promotional literature to an efficient sample of the list.

(4) Estimate the probable marginal advertising cost of each list by computing the ratio of (a) the added advertising cost of the mailings to (b) the sales obtained from the sample mailings (e.g., for List A, 50 cents a copy).

(5) Estimate the incremental profit per copy. Roughly, it is the spread between price and incremental printing costs (e.g., $1.00 a copy).

(6) Rearrange the sample lists in a new ladder in respect to the estimated marginal cost of advertising. Starting at the top, make full mailings to each list down to the rung where incremental profit just fails to cover estimated marginal advertising cost (e.g., stop at List M, where a marginal advertising cost of $1.00 a copy was indicated by the sample).

ALTERNATIVE METHODS

Having reviewed a theoretical foundation of selling cost analysis as applied to advertising, we turn now to the methods that are actually used to determine advertising outlays. Our central concern is with the philosophy underlying the methods rather than with the mechanics of administrative controls. We shall use "budget" and "appropriation" interchangeably, though a distinction might be made between the long-range expenditure plan (budget) and the outlay authorized for a given year (appropriation). The words "expenditure" and "outlay" will, unless otherwise qualified, apply to future plans and will refer to the budget.

As for the marginal approach reviewed in the preceding section, its impeccable logic provides a criterion for appraising the methods described in this section, even though its problems of application are at times insurmountable. Several alternative approaches to the problem of planning total advertising expenditures will be examined : (1) a fixed percentage of sales; (2) all you can afford; (3) whatever amount promises a better than specified return on investment; (4) the amount needed to attain advertising objectives; and (5) the amount needed to match competitors' advertising.

Percentage-of-sales Approach. Determination of the advertising budget as a percentage of past or expected sales is a method that was dominant in the past and is still widely used. A survey of budgeting practices of industrial users in 1939 made by the National Industrial Advertisers Association and reported in the *Sales Management Handbook*[1] showed that 48% of the 383 respondent companies used some variant of the percentage-of-sales method. Neil H. Borden, in *The Economic Effects of Advertising*,[2] points out that of 215 companies advertising consumers' goods in 1935, 54% stated that their appropriations were a predetermined percentage of sales, either of the past year or of the year of the budget.

[1] J. C. Aspley, Editor (Fifth Edition, Chicago, The Dartnell Corporation, 1947).
[2] (Chicago, Richard D. Irwin, Inc., 1942), Chapter 25.

The method has several variants : it can use either a fixed percentage or a percentage that varies with conditions; it can be based either on historical or on projected sales; and it can be stated either in dollars or in physical volume.

This general approach to the problem is hard to support analytically. The purpose of advertising is to increase demand for the company's products above what it would otherwise be. A stable or declining demand is not evidence that advertising is ineffective, for without it sales might have been even lower. It must be remembered that advertising is a cause, not a result, of sales. The amount to be spent in shifting the demand schedule should depend on how much the shift is worth. The volume of sales the company already has tells nothing about the cost or the worth of getting more.

It would appear even less rational to base the budget on the volume of sales that the company expects to get. Sales will be the result in part of the level of national income and the accumulated effects of past advertising, not only of the advertising that is currently being decided on. To the extent that sales are determined by forces other than current advertising, the criterion of expected sales is irrelevant. To the extent that they are determined by future advertising, the criterion is based on circular reasoning.

How, then, can the widespread use of this method be explained? To some extent it may be due to top management's desire for the certainty and the illusion of control that comes from relating this essentially discretionary element of expense in a systematic way to revenue. There is an element of safety in limiting advertising outlays in this manner, since expenditures are timed to come when the company has the gross revenue to afford them and when their tax effect may be favourable. But this element of safety could be better found, as in the marginal approach, by making advertising a function of expected profit, which normally fluctuates cyclically more violently than expected sales. If this method rests upon the belief that the added sales per dollar of advertising are higher when national income is high, it would be more logical to make advertising outlay vary directly with national income.

Another possible explanation for the popularity of this method stems from competitive relationships. If all, or most, members of an industry used this method and employed the same percentage of sales, competitors' advertising outlays would be roughly proportional to their market shares. This condition would have restraining effect on competitive warfare in advertising, and would ease ulcers in peace-loving firms. Much advertising is essentially defensive anyhow.

Thus, although the percentage-of-sales approach appears on its surface to have no logical justification, it has features that make it attractive : It provides a formula answer with an illusion of control; it permits the cyclical timing of outlay to fluctuate roughly with ability to pay; and it may tend toward competitive stabilization. But inertia and the lack of a more logical

and equally definitive standard are probably the most important explanations for the popularity of this essentially mechanistic method.

All-you-can-afford Approach. An approach to the determination of the advertising budget which is probably more widely used than most executives would admit is for a company to spend on advertising all that it can afford. In practice, this amount is sometimes a predetermined share of the profits, though sometimes it is gauged by the amount of liquid resources and borrowable funds. The result of this policy is that advertising is often the first expenditure to go because it does not involve long forward commitments and does not disrupt the organization so much as other major curtailments, and because long-term results are less tangible than the results of other kinds of outlay.

At first blush this method seems to make no sense at all, yet on further analysis it appears that the effects of advertising outlays upon profits and liquidity are important considerations in setting outer limits for advertising. These limits may prove to be beyond the range of profitable advertising outlays (e.g., for a producer of power plant apparatus), but they are often well within it. In any event, these limits ought to be staked out.

Normally a time lag occurs between advertising outlay and sales results. Even if the advertising outlays bring highly profitable results ultimately, financial embarrassment may develop if short-term cash and credit limits are ignored—especially if the time lag of response is long. The limit of what a company can afford ought to be set ultimately by the availability of outside funds. The firm's resources in this sense set a real limit on advertising outlay. However, the mere existence of a limit is no reason for shooting at it. It may be far above the amount of advertising that is profitable.

The effect of advertising outlay upon the company's earnings statement is also a valid factor in timing. Even though an added thousand dollars of advertising brings a smaller increment of sales and profits at a profits peak, it may be justified because the Government pays 45% or more of the outlay, and because a lower earnings figure is often more respectable at such times.

Corporate income taxes favor concentration of advertising at cyclical peaks and penalize attempts to accumulate advertising reserves to be spent in depressions. One reason is that future tax rates are quite likely to be higher in prosperity than in depression, and the carry-back and carry-forward provisions of the law are probably inadequate to remove this tax incentive for bunching of expenditures. Moreover, Section 102 discourages retention of earnings for future depression advertising. The vast amount of money spent during the Second World War in advertising unavailable civilian products showed the widespread acceptance of the philosophy of relating advertising outlays to profits, with a weather eye on their tax effects.[3]

[3] See Jerome D. Scott, "Advertising When Buying Is Restricted," *Harvard Business Review,* Vol. XXI, No. 4 (Summer, 1943), pp. 443-454.

Union negotiations and public opinion also frequently make it embarrassing to show high profits in prosperity; hence timing advertising outlays to manipulate reported earnings makes sense as a modification of a strictly marginal approach. Considered purely as a capital investment in distant-future benefits, it may be desirable from the viewpoint of capital budgeting to limit advertising outlay of an earnings plow-back nature to some fixed proportion of current earnings. Over the cycle this method would lead to advertising outlays that fluctuate violently, for a company's profit cycle normally has much greater amplitude than its sales cycle. It might lead to unprofitable curtailment in hard times.

Used uncritically, the all-you-can-afford approach is unsatisfactory, largely because there is no relation between liquidity and the richness of advertising opportunities. If another $1,000 of advertising will bring in $2,000 of added profits, it is hard to say that it cannot be afforded. A management that limits advertising to liquid funds or to percentages of profits is probably overspending at some time and forgoing money-making opportunities at others.

The all-you-can-afford method, however, is helpful in some ways in determining the advertising appropriation. (1) It produces a fairly defensible cyclical timing of that part of advertising outlay that has cumulative, long-run effects. (2) When marginal effectiveness of advertising can be guessed, it budgets well for firms operating short of the point where incremental advertising costs and profits are equal. (3) When nothing can be known about the effects of advertising, it sets a reasonable limit on the gamble. Actually everything above a respectable return on capital might be spent on advertising, since excess earnings could be considered to have low utility to management compared with the possible contribution of continuous advertising toward eternal life for the firm.

Return-on-investment Approach. Advertising has two effects: (1) It increases sales today. (2) It builds goodwill to increase sales tomorrow. The first involves primarily problems of selecting the optimum output rate for maximizing short-run profits. The second involves selection of the pattern for investment of capital funds that will produce the best scale of production and maximum long-run profits. Thus, another approach is to treat advertising primarily as a capital investment rather than as a current expense. Determination of the amount of advertising then becomes a problem of capital expenditure budgeting. Advertising investment must compete for funds with other kinds of internal investment on the basis of prospective rate of return.

Although each piece of advertising affects both immediate sales and the long-run goodwill structure, the relative importance of the two effects can vary widely. At one end of the spectrum is institutional advertising, with a long time lag and untraceable effects—e.g., using radio programs featuring

symphony concerts. This is almost pure capital investment. At the other end is advertising of special sales events by retail establishments. Such advertising usually has only a small element of capital investment. Metrical separation of these two components is probably impossible. Interaction makes the problem even more complex since the level of the reservoir of cumulative goodwill modifies the efficiency of advertising directed at immediate sales. The only possibility, and that a slim one, is to use multiple correlation analysis.[4]

The timing of advertising over the years resulting from a return-on-investment approach differs unpredictably among companies. The pattern depends on the philosophy of budgeting and on the prospective profitability of capital expenditures that vie with advertising for funds. Only if the prospective return on institutional advertising has sharp cyclical fluctuations will anything but an accidental cyclical pattern evolve from this criterion alone. This may be unimportant in some cases, where the lag in response is long and diffused. But dimming memories and the incursions of rivals usually dissipate the goodwill built by advertising through evaporation or run-off. This is particularly dangerous when costs of re-entering lost markets are high. Hence a part of the advertising investment problem is to find what rate of current expenditure is required to offset this deterioration and to maintain the level of this goodwill reservoir. Thus a concept analogous to plant replacement operates in estimating return on advertising investment.

The chief deficiency of the return-on-investment approach is the difficulty of even guessing at the rate of return on advertising investments. Problems of distinguishing investment advertising from outlays for immediate effect; problems of estimating the evaporation of the cumulative effects of advertising; and, most important, problems of measuring the effect of advertising accumulation on long-run sales volume and on the possibility of eventual price premiums all conspire to make the return on advertising investments highly conjectural.

These measurement difficulties rule out this approach as a sole criterion for budgeting investment-type advertising, but they do not invalidate the investment approach itself. For other kinds of investment, e.g., research laboratories and department store escalators, it is equally impossible to estimate the return precisely. Yet few would, for this reason, kick out such items from the capital expenditure budget. Institutional and cumulative advertising should be analyzed in the intellectual setting of the capital budget, viz., long-range strategic and profit objectives, competition of alternative investments for limited company funds, and balancing of risks against prospective return on

[4] See Sydney Hollander, Jr., "A Rationale for Advertising Expenditures," *Harvard Business Review*, Vol. XXVII, No. 1 (January 1949), p. 79.

investment in rationing capital. This kind of investment perspective should be an integral part of an intelligent approach to the advertising budget.

Objective-and-task Approach. The Second World War brought to prominence the objective-and-task method of determining the advertising appropriation. On the basis of a post-war survey, *Printers' Ink* of December 28, 1946, concluded that this was the most widely used method. The popularity of this approach during the war apparently came partly from the need to justify advertising expenditures as business expenses (for purposes of taxes and contracts) during a period when a low percentage of civilian goods sales would support only trivial outlays.

Under this approach the advertising budget is the amount estimated to be required to attain predetermined objectives. The orthodox procedure involves an impeccable and highly salable sequence of steps : (1) define the objectives; (2) outline the tasks, i.e., the specific means of attaining the objectives; and (3) determine the cost of accomplishing these tasks.[5] The cost so determined is the advertising appropriation.

An "objective," as used in this procedure, is properly stated as a change : the difference between results with the advertising and results without it. The objective usually applies to the coming year's sales, although it may refer to invasion of a specific market or the establishment of distribution outlets. In this respect the actual advance that this method represents over the percentage-of-sales criterion may easily be overestimated. In general practice the sales-volume objective is based on the preceding year's volume. Expected changes in business conditions, competitors' actions, and so forth, are then considered as a basis for deriving the current year's outlay from the preceding year's outlay.

Some companies fall back on intermediate objectives such as establishing brand familiarity or preferences, promoting applications of the product, or simply broadcasting the sales message. Many such "objectives" simply list the roles of advertising in the broader merchandising scheme without referring to specific sales effects. For example, a recent study for the Association of National Advertisers reports the advertising goals of the Armstrong Cork Company as keeping the company's name before customers and attracting the attention of those who are not buying now by : (a) providing salesmen an access to prospects, (b) making prospects easier to sell to, (c) publicizing the Armstrong name, and (d) carrying the sales message beyond the range of personal coverage.[6]

Nobody can quarrel with thinking through goals of advertising as completely as possible, since it contributes to better copy and media policy. But

[5] For a complete and thoughtful treatment of this approach, see A. H. Haase, *The Advertising Appropriation* (New York : Harper & Brothers, 1931).

[6] Paul H. Nystrom, Editor, *Marketing Handbook* (New York, The Ronald Press Company, 1948), p. 1235.

this kind of analysis of "objectives" contributes nothing to determining the size of the advertising appropriation. For that purpose objectives must be expressed so that they are measurable and costable, e.g., a 10% increase in sales next year over what they would have been without this advertising.

In its bald form, the objective-and-task approach begs the question. The important problem is to measure the value of objectives and to determine whether they are worth the probable cost of attaining them. In other words, what intensity of demand (i.e., what position and shape of demand schedule) is an economically sound objective? The objective-and-task method assumes that the candle is always worth the cost. In many cases the high marginal prodductivity of advertising (up to the limit of the money available) bails out the advertiser, but this good fortune does not make his basic thinking any clearer.

After valuing and costing legitimate objectives, the next and vital step is either to cut back or to expand plans in the light of these prospective costs. In this form—since the objectives are reshaped and really determined by the cost of attaining them, rather than vice versa—the approach has the virtue of sharpening issues and directing research and planning into relevant channels.

When an objective has been defined so that the task can be stated in terms of costs, the problem is in a form that is appropriate for analysis either by the marginal approach or the investment approach. Objectives in terms of *near-future* sales volume can be expressed as the marginal advertising cost function in Exhibit I, while specific *long-run* objectives can be viewed as investments to be built into the capital budget on a rate-of-return basis. For instance, if the objective is to get mass volume for a new product at a premium price, the task of advertising is to establish and maintain the corresponding brand preference; the budgeting problem is to determine the relation between the necessary initial and continuing outlays and the resulting level of price-premium, and to compare the premium profits with the required investment in advertising.

To sum up, the objective-and-task approach, using a straightforward sequence of attack that is good for any business problem, tends to beg the question when it is not carried the whole way. The economic problem is to determine what objectives are worth the cost of attaining them. This cost can sometimes be predicted, but the value of attaining objectives can rarely be measured. This general method can, however, be extended into highly promising experimental and marginal approaches. Through such approaches objectives can be reformed in the light of costs. Economic tasks can thus be adapted to the peculiar goals and situations of individual companies and nicely integrated with other elements in the company's marketing plan. But the objective-and-task method is a budgeting method only because it is called one; what it actually does is to frame problems for solution.

Competitive-parity Approach. The essence of the competitive-parity

approach is to base in some systematic way the company's advertising outlay on the outlays of other members of the industry. Specifically, the company's percentage of total competitive advertising might be made equal to its share of the market. (A variant, which is quite different conceptually, is to spend as much as necessary to retain a desired market share.)

This method of budgeting is widely used, and it finds some support in the writings of practitioners. The defensive nature of a large proportion of advertising outlay, designed to check the inroads of troublemakers, may account for the method's popularity. For example, in the anti-trust case against the big three tobacco companies, the explanation advanced by American and by Liggett & Myers for following the lead of Reynolds in a 1931 price advance was that the revenue was needed to match Reynolds's increased advertising.[7]

This approach appears at first to have slim warrant in principle. What competitors spend on advertising does not tell a firm how much it can spend to make added benefits just equal the added costs. The size of this optimum outlay is affected by rivals' advertising, since competitors' advertising influences the productivity (incremental cost) of the firm's advertising. But it cannot be determined by merely matching competitors' appropriations. Hence what rivals choose to spend does not in itself provide any valid measure of what the firm's advertising budget should be.

The parity approach is sometimes defended on the grounds that the advertising percentages of competitors represent the combined wisdom of the industry. This argument assumes that rivals know what they are doing and that their goals are the same as the firm's. Actually, since great differences normally exist among competitors in the ratio of advertising to sales, the industry average is often relatively meaningless. Consider, for example, this breakdown of an industry average that appeared in *Printers' Ink* of February 8, 1947 : out of seven companies, one devoted 9% of sales to advertising; one devoted 3%; three devoted 2%; and two devoted 1%.

No correlation appeared between outlay and size of firm in this breakdown. Further analysis revealed that the smallest firm, which was one of the heaviest advertisers, was bent on a program of aggressive expansion; one of the concerns that spent 2% manufactured only a restricted line and had no ambition to grow; the largest concern was well established and was making a very satisfactory showing with an expenditure of only 3%. This case illustrates the limitations of an industry average as a tool for determining outlay, in that companies differ in objectives, brand maturity, and marketing methods. It also suggests the advantages of knowing rivals' objectives and competitive situations as well as their advertising outlays.

Anoher difficulty is that, to the extent that this rationale is valid, the future and not the past advertising outlays of rivals should constitute the standard. Usually these outlays cannot be determined soon enough or with

[7] *American Tobacco Company* v. *United States*, 328 U.S. 805 (1946).

enough accuracy to be useful in planning appropriations.

Advocates of parity advertising claim that it safeguards against advertising wars that can be started when other methods are used to determine outlay. Parity advertising may thus play a role analogous to that of price leadership in preventing price wars. But degenerative retaliation in advertising is much less likely than in price competition. This is because precise retaliation in advertising is more difficult, less frequently necessary, and less compulsive in the eyes of defenders than price retaliation. Quality of copy and appropriateness of media vary, and time is required to plan campaigns. Advertising is a more diffuse basis for buyers' comparisons of competitors than price, and differentials in advertising cause smaller shifts than do price differentials in price wars. Moreover, uncertainty about the results of the aggressor's advertising slows reaction of other firms, who rather hope for industry-wide benefits from the outlay through expansion of the total market. (Particularly in the early stages of product acceptance—e.g., as in the case of frozen orange juice—the market-widening effect may be vastly more important than the market-sharing aspect.)

Behind the desire to offset competitors' effectiveness, presumably, lies the desire to retain market share (or to expand that share by a planned amount). To do this does not necessarily call for parity in advertising outlay. Advertising is only one of many forms of selling effort. The amount competitors spend on it simply reflects their apportioning of the sales dollars among all the various possible forms. One firm's proportion may be wrong for another firm. If a firm is to match its competitors in some way, it should match their total sales effort in effectiveness, rather than their apportionments among various devices. Better quality of copy and media, greater cumulative prestige, and superior product attributes may make it possible for a firm to do, say, 10% of the advertising done by its competitors and still keep, say, 20% of the sales.

The parity approach is a dangerous guide to use literally. Since competitors' advertising affects the productivity of a firm's advertising, it also affects the firm's optimum outlay for both short-run and long-run profit maximization. But the firm's optimum outlay is not actually determined by parity with competitors' expenditures. Firms differ so much in objectives, competitive maturity, marketing methods, and the quality and cumulative prestige of advertising that competitors' advertising ratios provide a pretty useless criterion. In the face of these differences in competitive situations, the possibility that parity will stabilize competitive warfare is not usually great enough to justify its use.

CONCLUSIONS

Planning of advertising outlays is subject to the same principles of marginal analysis that are applied to production problems. Advertising costs differ

from production costs, however, in that they have no necessary functional relation to output, being a cause rather than a result of sales.

In many situations an economically logical approach becomes a bit mystical because the relevant considerations for deciding how much to advertise are not measurable and visceral guesses have to take their place. Under these circumstances rival methods have an attractively solid appearance because their criteria, though not strictly relevant, are nevertheless tangible.

Viewed against the logical background of marginal analysis, most of the methods that are actually used to decide on the advertising appropriation seem to have no economic foundation. The fixed-percentage-of-sales method gets the cart before the horse; advertising outlays should cause sales, not be determined by them. The all-you-can-afford method reflects a blind faith in advertising which, though occasionally rewarding, is nevertheless a confession of ignorance. The objective-and-task approach, though it sounds plausible, stumbles before it starts over the obstacle of not determining whether the objective sought is economically worth attaining. The competitive-parity method represents a narrow goal not usually tailored to the company's full needs. And the investment approach, while conceptually sound in recognizing the time dimension of advertising and its rivalry with alternative capital expenditures, is hard to nail down with empirical data.

The difficult problem in applying economic analysis to advertising is to find the empirical equivalents of the theoretical curves. The deep uncertainty surrounding the productivity of advertising is perhaps the origin of such methods as percentage-of-sales and objective-and-task. But whatever rationale these methods may once have had, their basic weakness is that they hide rather than highlight the economic issues in the advertising problem. Despite its limitations, economic analysis can be helpful in reaching a better decision on the amount of advertising by focusing attention on the relevant (even though unmeasurable) relationships as opposed to the irrelevant (but measurable) ones. Though the complete theoretical solution to the advertising problem is too complex for practical use, manageable approximations may sometimes be feasible. Quite a few things unmeasurable ten or twenty years ago are susceptible to such approximation in 1951.

39/*The Productivity of Advertising Dollars*

WROE ALDERSON

This article represents an attempt to set up ways by which the productivity of advertising expenditures can be determined. The author discusses the allocation by media and by appeals and also discusses alternative advertising strategies.

Advertising budgets represent a large and growing element in the costs of marketing. In fact, since 1947, money spent for advertising has constituted a steadily increasing share of the gross national product, as compared to a gradual decline in the relative importance of advertising for the previous twenty years. On the other hand, advertising expenditures have tended to fluctuate more than other marketing costs in response to the business cycle. In times of business recession advertising budgets have often been cut more deeply than other marketing expenditures. The advertising budget is especially vulnerable during an economy wave because of the intangible nature of the job which advertising performs, the difficulty of measuring its impact, and the extent of its contribution to sales and profits.

Advertising practice needs a theory of advertising. Any attempt to measure advertising results must start from some basic considerations in the theory of measurement. The results of advertising can be measured if our measurement techniques can be made to conform to certain criteria. Useful measurements must be reliable, efficient, valid, and relevant. If a measure is not reliable it may point in the wrong direction and be worse than no information in its impact on judgment. If a measure is not efficient it may cost more than can be justified in relation to the issues at stake. When we say that a measure is not valid, we mean that it does not measure what it purports to measure. It may be reliable in the sense that the results obtained are consistent within a small range of error and yet invalid because of a built-in bias in the technique. In order for an advertising measurement to be relevant it must fit into a theory or model of the way advertising works and thus be useful in predicting the results which can be obtained through advertising.

For our present purposes a useful model is one which will give us reliable answers to two questions: (a) How much should a firm spend for advertising ? (b) Given an advertising budget of a stated size, how should the money be spent ? The second question can be broken down into two parts, one the allocation of the budget among media, appeals or campaigns, and the other the original selection of media or appeals.

SOURCE : From *Cost and Profit Outlook,* February, 1958, Wroe Alderson : Partner, Alderson & Sessions, Inc.

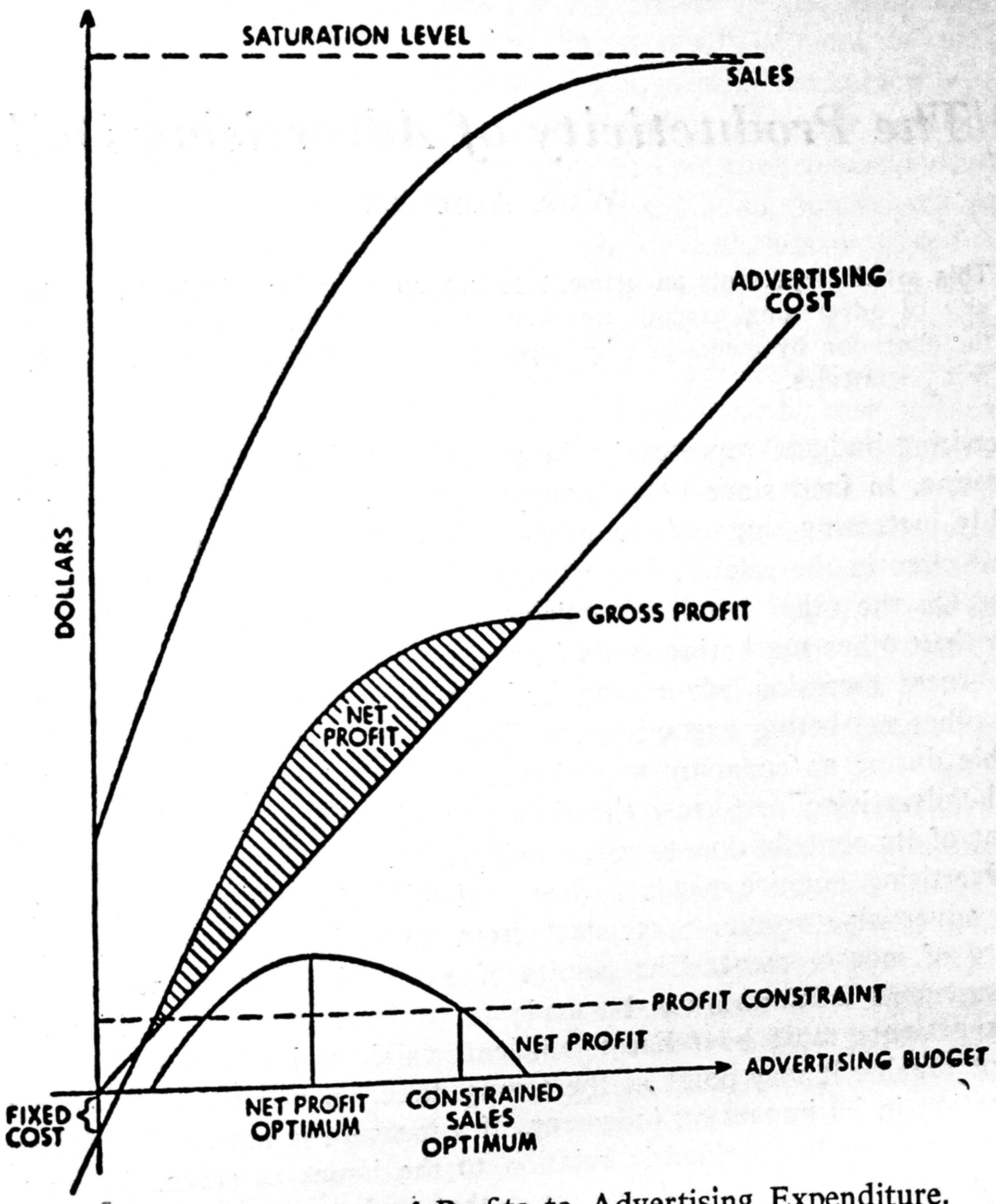


Chart 1. The Relation of Profits to Advertising Expenditure.

Progress in advertising measurement from now on will necessarily be made in terms of a better understanding of advertising systems and how they work. A model is simply a convenient way of representing the salient features of an operating system in order to facilitate analysis. Models are usually represented either in graphic form or in a corresponding set of mathematical equations. This discussion of advertising systems will be built around some charts representing various aspects of the way an advertising system operates.

The first of these charts is designed to portray the relationship of advertising expenditure in a business to sales and profits and to other major elements of expense. The chart shows the size of the advertising budget on the horizontal axis. The vertical axis represents dollars of sales or of costs

and profits. A rising diagonal line represents advertising costs, while there is a curved line for gross profits which is here defined as the difference between sales and all costs other than advertising. Net profit is the shaded area between the two. Sales volume is shown as a curved line which levels off as it approaches the saturation level indicated at the top of the chart.

The existence of a saturation level means that advertising is subject to the law of diminishing returns. For any product it is reasonable to assume that there is a saturation level representing the maximum sales that can be anticipated if price and quality are held constant. The closer that total sales approach to this saturation level the more expensive it becomes to generate additional sales through advertising. Thus, for any advertised product it can be assumed that a point is reached eventually at which additional advertising produces no additional sales.

It will be seen that according to this model there is an optimum level of advertising. That is the level of advertising which can be expected to generate the sales volume which will produce maximum profits. This is seen most clearly at the bottom of the chart where net profits are plotted on the horizontal axis. To ask how much should be spent for advertising is equivalent to asking for a scientific determination of this optimum level as it applies to the particular company in question. The chart also provides for the case in which the company sets as its goal a fixed amount of profits. The optimum sales volume then is the highest level which will yield the target amount of profits. How, then, do we pass from the economic theory of advertising as reflected by this chart to some definite numbers which can assist management in setting an advertising budget? There are at least three possibilities, all of which are much better than a pure guess, even though they still leave much room for progress.

Methods for Determining the Size of Advertising Budgets

The first method is by experimental advertising with the purpose of determining the shape of the advertising productivity curve shown on the chart. A typical experiment is one in which three or more test areas are selected. One is used as a control area either with no advertising or with only the normal level of advertising which is already in force. Advertising at various levels of intensity is carried out in the other test areas. There are both scientific and administrative difficulties to be overcome in such tests, but they can produce valuable results under favorable conditions.

A second approach is to make an analysis of the company's advertising history by regions or by sales territories. We at Alderson & Sessions have obtained useful results from such studies using multiple correlation analysis to measure the variation in sales resulting from differences in the promotional mix from one territory to another. Such differences inevitably occur in relation to the sales potential of the various territories. Perhaps one might say that the underlying assumption of such a correlation analysis

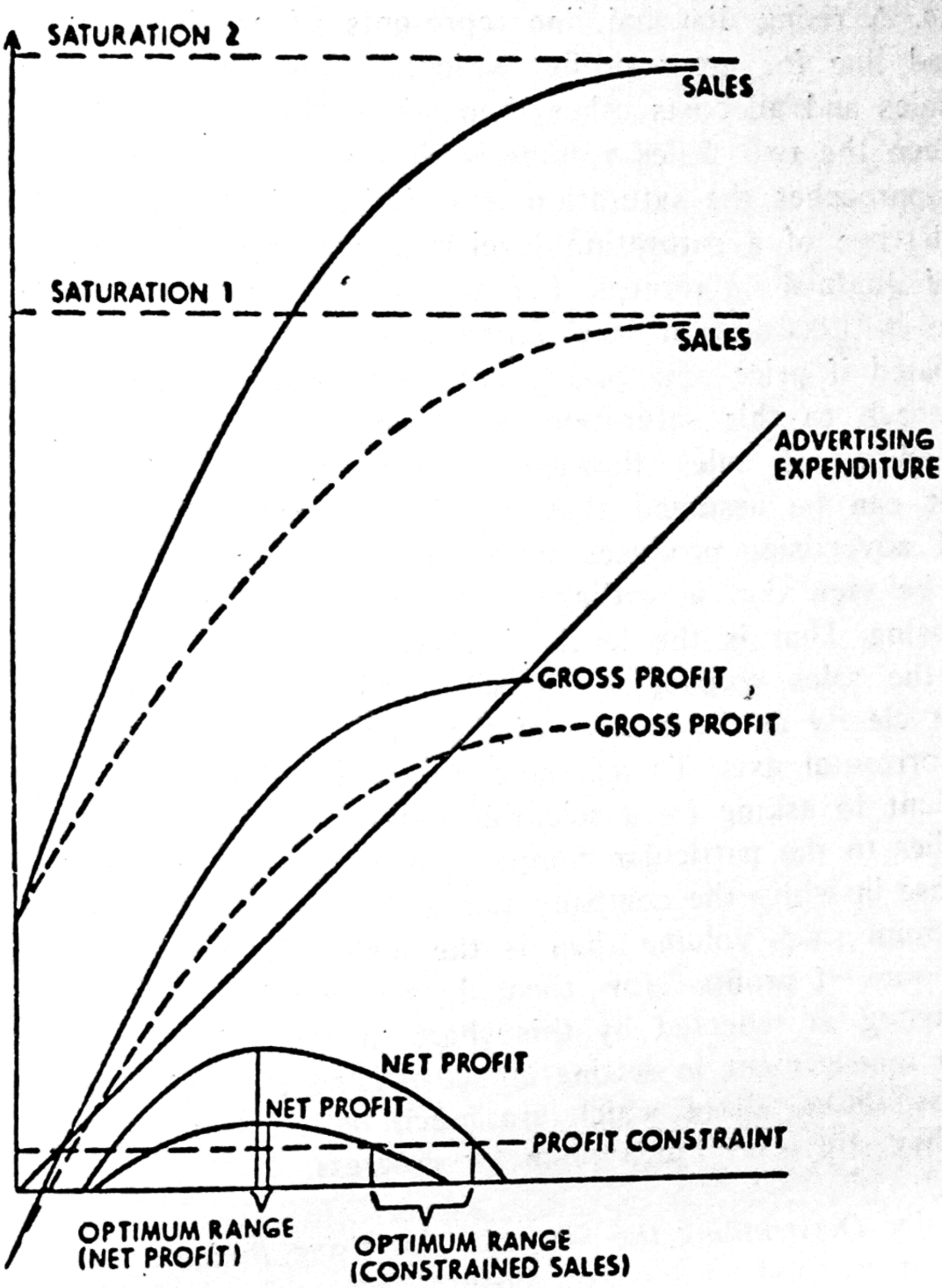


Chart 2. Effect of Estimating Range of Saturation Level.

is that the company has unconsciously been carrying on an advertising experiment which can still be analyzed if adequate records exist as to territorial sales and advertising expenditures. This kind of analysis is much more practical today from a cost standpoint because of the development of electronic computers and the fact that correlation problems with a dozen or more variables can be programmed for solution on these machines.

The third possibility is to make some estimates concerning the shape of the advertising curve working within the framework of the model which has been presented. One step in such a procedure is illustrated in Chart 2. This chart differs from Chart 1 only in the fact that it has two sets of curves corresponding to two estimates of the saturation level. In working on the basis of estimates it would probably be wise to set up maximum

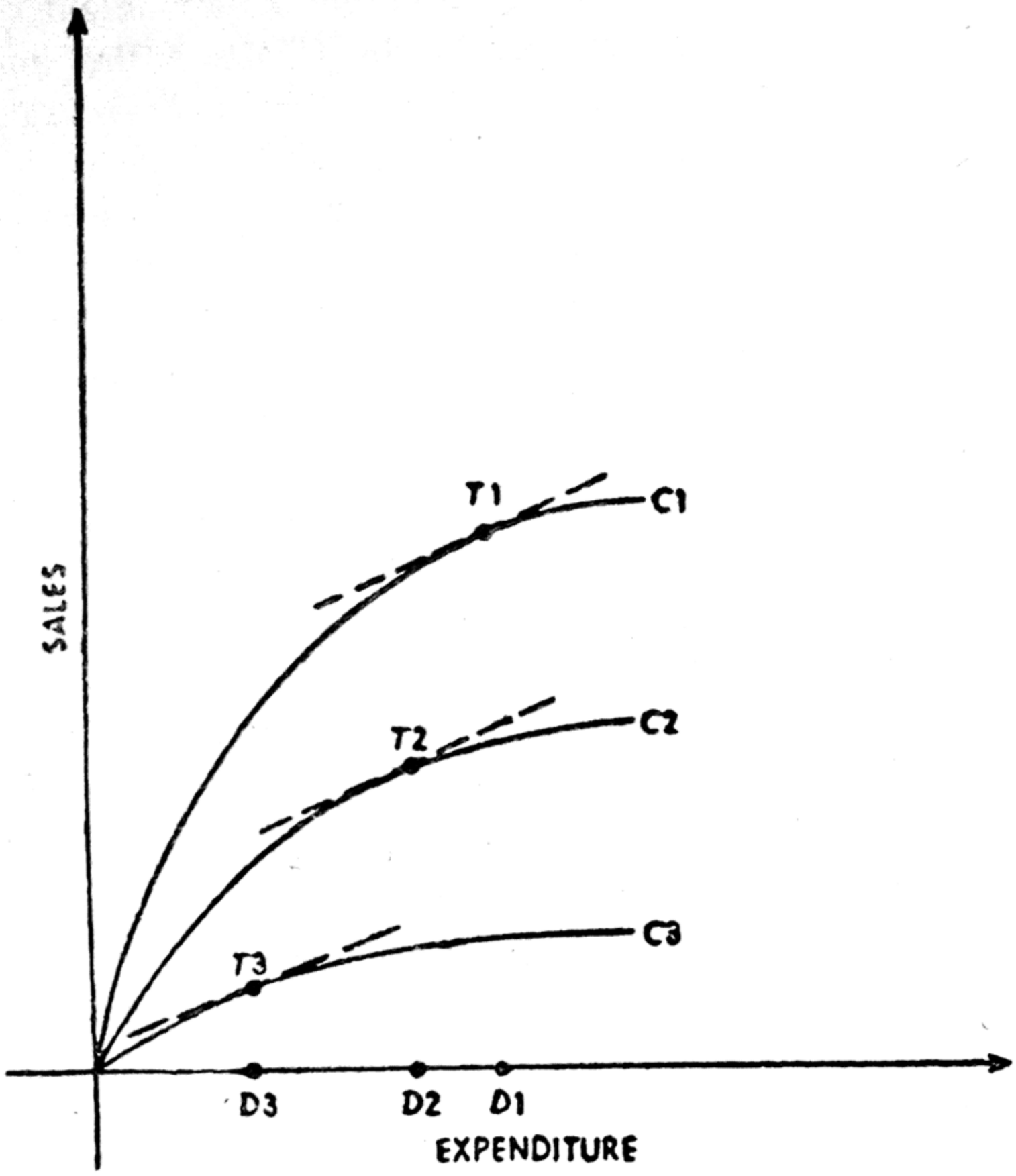


Chart 3. Optimum Allocation of Advertising Expenditure to three Copy Themes.

and minimum levels of saturation. In a going company there will often be sufficient information about the company's markets to permit such estimates of the saturation level. It will be seen from Chart 2 that these maximum and minimum estimates of the saturation level result in maximum and minimum estimates for the optimum level of advertising. Actually it is necessary to estimate the location of two points on each curve in addition to the saturation level in order to draw the curve with approximate accuracy. I will not take time to outline these procedures since I only wish to illustrate the value of using whatever information is available within the framework of a model. The great contribution of operations research during the war was in deriving some guidance for command decision from fragmentary information.

Allocation of Advertising Dollars

The next two charts are related to the problem of allocation, or the relative effectiveness of different ways of spending the same amount of advertising money. Chart 3 is to be applied in the evaluation of advertising

by various segments of an advertising program which might represent, for example, several different copy appeals. In Chart 3 the horizontal axis represents advertising expenditure, and the vertical axis sales generated by advertising. Each of these curves might be understood as the potentiality of a given copy appeal for generating sales. Each tends to level off, reflecting diminishing returns until a point is reached at which little or no additional sales would result from additional expenditure. Let us assume that an advertiser had experimental evidence for the slope of these three curves related to three different advertising appeals. Obviously C_1 is the most favorable response function up to a certain point and should absorb all of the advertising dollars. At a higher level as to total budget, additional dollars could be used more effectively on C_2 and at a still higher level on C_3. In allocating additional dollars the advertisers should always be moving upward on the steepest available slope. For any given amount for total expenditure the three appeals should be used in such a way that the slopes of the three curves are equal for the last dollar spent on each. To express this principle in algebraic symbols, $D_A = D_1' + D_2' + D_3$, when $T_1' = T_2 = T_3$, D_A being the total budget and the T's representing the slopes of each curve.

Chart 4 represents the productivity curves for various advertising media available for promoting a given product. These curves are similar to those

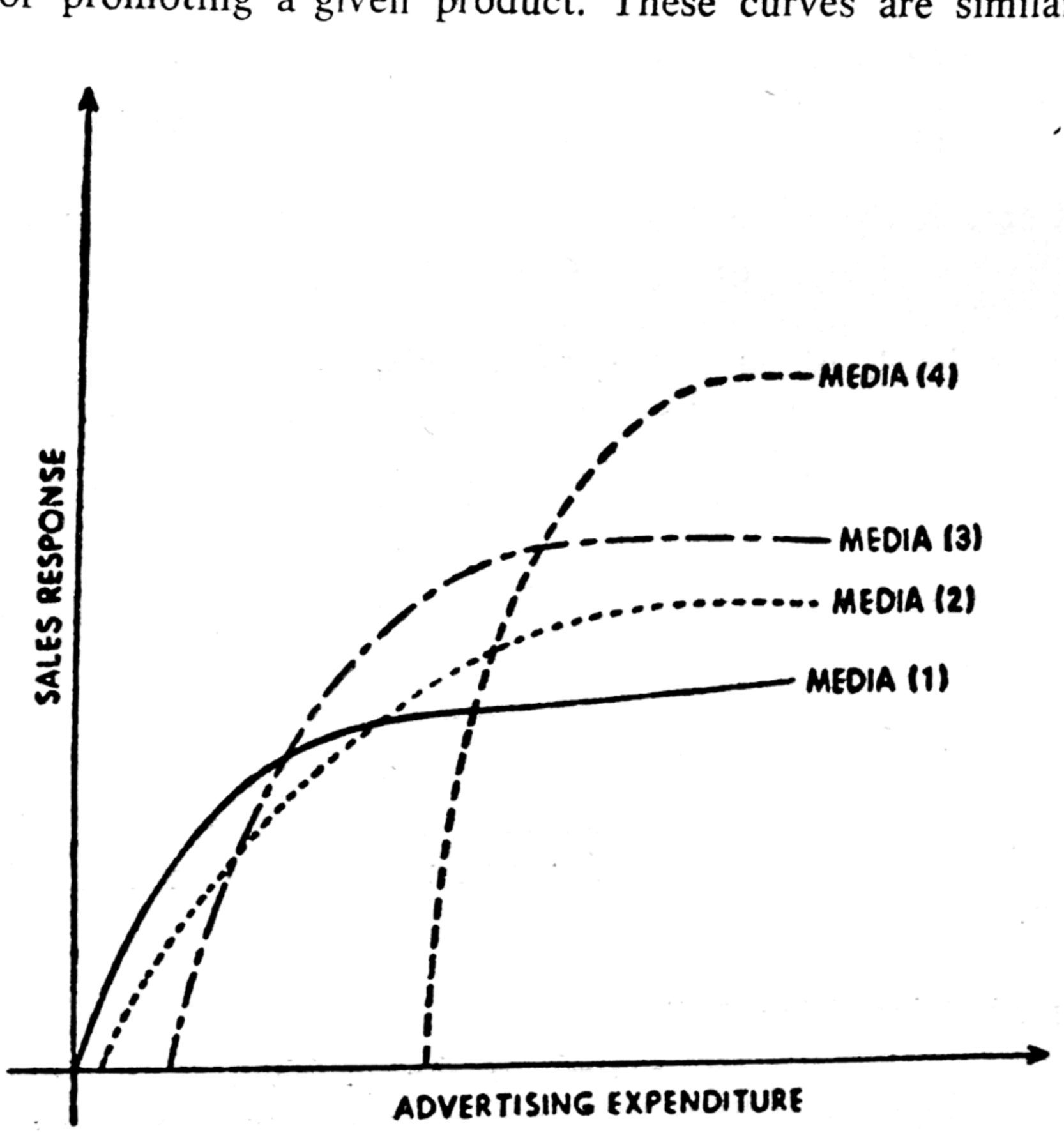


Chart 4. The Relative Sales Effectiveness of Advertising in Different Media.

in the last chart in that each curve tends to approach a ceiling. This chart is different in another respect, however, since in most cases the curve also has a threshold. That is to say, it starts at some distance to the right of the point of origin, representing the fact that for a given medium some fixed amount of money might have to be spent before advertising has any effect at all. Assuming the availability of data which would give the shapes of all these curves or functions, it then becomes possible to determine the best allocation of an advertising budget of a given size.

The solution could be found by simple trial and error using such a chart, or a more formal solution would be possible in terms of mathematical programming. Essentially it means that the analyst would pick the most advantageous curve and follow that line upward until it begins to level off and he can find a steeper slope on one of the other curves. Each additional dollar of advertising committed is placed according to this principle until the total amount has been allocated and the slopes are equal at the point representing the last dollar allocated to each medium. The end result should then be to obtain the optimum sales expectation from the total expenditure. Note that a relatively small advertising budget might all have to be spent in the media represented in the left-hand portion of the chart. At a later stage in the advertising history of the company with more money to spend, it might be wise to drop these media and go into the one toward the righthand side which has a higher threshold, but also the advantage of a faster rise and a higher ceiling once the threshold is passed.

Choice of Advertising Strategies

The media and appeals to be used are determined by the choice among advertising strategies. The best strategy is the one which is most appropriate to the sales goals of the company and the conditions imposed upon it by the nature of the market. With respect to durable goods, the advertiser might direct a part of his budget toward keeping present owners in a state of pride and satisfaction so that they will speak well of the product and repurchase it themselves when the time comes. For a packaged product the advertiser might be concerned either with increasing the rate of use among present users or with increasing the number of users. The optimum advertising strategy will vary among these several types of situations.

Perhaps the most fundamental of these advertising objectives is to get more users, but there are significant variations of strategy even with respect to this objective. To increase the number of users for his product an advertiser must first get people to try it, and then hold on to them against the competitive appeals of other products. Of those who respond to an advertisement in January and buy their first package of a product, something less than 100 per cent will be using the product in July. Alderson & Sessions and other organizations have made numerous studies of these two factors of number of tryers and retention rate and of the substantial shift of consumer preference back

and forth among brands in most competitive fields. Such studies show the largest percentage lost among tryers immediately after the first purchase and gradually diminishing percentages of loss after they have bought their second or third package and so on. This loss function can be expressed as an exponential curve which first drops steeply, then gradually levels off.

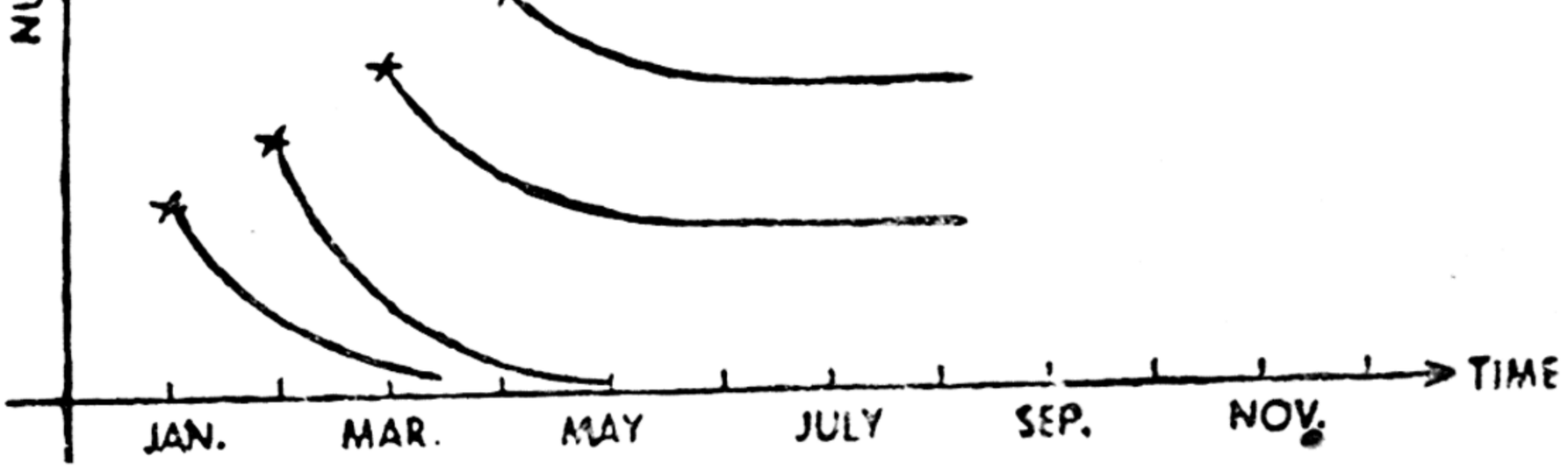


CHART 5. Increasing the Number of Users through More Efficient Advertising (More tryers versus higher retention rate).

Let us make the reasonable assumption that there is a loss function corresponding to every advertisement which a company places. Let us assume further the simplified case of an advertiser placing a single advertisement each month as, for example, in a monthly magazine. The result each time is to get a number of readers to try the product for the first time and of these tryers a portion will continue to use the product for varying lengths of time. Chart 5 represents the hypothetical case of an advertiser who increases the efficiency of his advertising month by month. This increased efficiency comes either by getting more people to try the product or by holding on to a larger percentage of them. In graphic terms the first effect means placing the starting point higher up on the chart, and the other means flattening out the curve, reducing the drop from the high point to the low.

Advertising might become more effective in getting consumers to try a product by reminding them of unsatisfactory experiences with other products, by giving them some convincing reason to expect superior performance from the advertised product, or by coupling the advertising with the offer of a free sample or a trial package at a reduced price. Advertising might become more effective in increasing the retention rate by instructing readers in how

to use the product, by publicizing a succession of product improvements, or by suggesting tests of performance which can be applied by the user. The primary objective usually will be to secure the best possible result in terms of users remaining after the loss function has spent its force.

The Ultimate Ideal and the Immediate Opportunity

The great virtue of a comprehensive model is first in providing a framework for the use of the data we have, and secondly to determine the most useful directions in which to expand or improve the measurement data available.

Eventually the most comprehensive advertising model will take its place as only one element in a still more comprehensive marketing model. This marketing model must provide for decisions about price policy, product improvement, choice of trade channels, and the deployment of salesmen. It must also enable the analyst and the executive to relate such decisions to advertising decisions. The most comprehensive marketing model is in turn only one segment of an overall decision model for the business firm. There are some outstanding research groups now working on these overall models, including especially the group headed by Dr. Jay Forrester in the School of Industrial Management at the Massachusetts Institute of Technology.

Not all of this elaborate analytical machinery will be brought to bear on any one advertising problem. The immediate opportunity, in fact, is to use the measurement data now available, making a modest and tentative beginning in fitting them into the relevant portion of the broad analytical framework which has been presented. Thus the formal analysis of advertising might be built up piece by piece. Parallel efforts would be going on to refine the data so that a complete analysis using a comprehensive model would eventually be practical. In the initial stage one analyst might confine himself to an investigation of the loss function as applied to advertising for the products of a company. Another might take the size of the budget as given and study the problem of allocation among media or appeals. A third might compare advertising strategies designed to obtain new users with those designed to increase the rate of use.

I will venture to assert that measurement techniques in contemporary use can make a major contribution to both the productivity and the efficiency of advertising. With respect to any major advertising budget it should be possible to increase its effectiveness by 10% with relatively small expenditure for additional research. Guided by models such as we have been discussing, market surveys and studies of marketing costs can be designed in such a way as to provide a good approximation of the advertising productivity curve and hence lead to a determination of the optimum size of budget. As to advertising efficiency the available measures may be faulty but still form the basis for relative judgments. While waiting for more precise techniques to develop the advertiser has the means at hand to keep moving in the direction of progressive improvement.

40/Research and Motivation

PIERRE MARTINEAU

It seems clear that research—especially that which deals with the behavior of consumers—can be of enormous help to the creative person in advertising. The author demonstrates how such qualitative research—as opposed to that type of research which relies heavily on statistics—can lead to better and more profitable advertising.

My purpose in the previous chapter was to articulate the true objectives of creative people in advertising. Thereby I hoped to indicate much broader goals for advertising. Now I would like to show how the creative person himself can be helped by deeper insights into the nature of people, as advertising is learning to use the techniques and findings of the social sciences primarily through new research developments, and especially by motivation research.

When I implied that the creative people should not be fenced in by formulas and petty rules, I certainly did not mean that they should have a licence to go off completely in their own directions. They have to make effort periodically to see if their meanings are actually getting through to their audiences. No matter how sensitive and brilliant the creative person may be, there is no such thing as creativity without occasional failure. The only way never to fail is never to try to be creative.

Without some systematic feedback from the audience, the creative person is relying completely on his own personal judgments, which means that in the final analysis he is being guided entirely by his own experience, his own introspections, his own hunches. He is necessarily looking at the world through only one pair of eyes, without making allowance for any differences whatever between people. The whole reason for sampling techniques in research is precisely to make certain this doesn't happen—to be sure that the problem is looked at from all representative viewpoints.

Each of us as a human being is walled in by his own individuality. Within this trap of my own subjectivity, I just don't see the world as a woman does, as a teen-ager does, as a person of another temperament does. My fundamental habits of perception will be colored by a number of powerful variables, including social class, age, sex, personality structure, education, occupational membership, degree of mobility, and so on. Even such a factor as religion bends a personality. There are very few Episcopalian farmers, Presbyterian

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farmers, or Jewish farmers. A study of the backgrounds of American scientists revealed that a disproportionately large share were of Protestant background. No one knows what there is in these backgrounds that inclines people toward this instead of some other course, but the relationship clearly exists.

Occupation is a curiously circular process. We are propelled or attracted to an occupation partly by temperament and probably also by chance. But once we are part of that group, a whole structure of viewpoints is gradually internalized to become a part of our fundamental psychic system, so that we act and see differently in many regards than do persons in other occupations. Advertising people develop many mannerisms of temperament and perception which are different from the way in which engineers, doctors, railroaders, musicians, or teachers behave. And in advertising, creative people are different in many points of outlook and personality behavior from persons in administration, account work, media sales, etc.

The point is that sometimes my introspections can be generalized outward, but more often than not I will be incorrect to assume that other people have the same motives and look at the world in the same way that I do. The fact that my hunches are right occasionally proves nothing. Even a broken watch shows the correct time twice a day. And common sense most definitely is no infallible guide. Common sense has been defined by scientists as that faculty which tells us that the world is flat. The problem is how to distinguish between common sense which gives the right answers and common sense which gives the wrong answers.

Without in any way attempting to interfere with the function of the creative people, research should be of enormous help as a source of broad guidelines and fruitful insights. I don't think that research in advertising has grown up to its real responsibilities yet. Very often it operates merely as a veto board, without making any attempt to be generative.

Besides establishing a two-way flow of communication, another primary function of the researcher in advertising should be to sensitize the creative people to make them more aware of their own creative energies. They become aware of things which are not in the research, but they only become aware of these impulses because of what the research has opened up for them.

2

Motivation research is not offered as a new religion or a way of life. It is simply a different tool for supplying a multiplicity of "why" answers about human behavior which just are not available from any other source. The old-time one-angle portrait photographer's camera stereotyped the sitter in one artificial pose; motivation research might be compared to a series of candid-camera shots. Instead of the camera's dominating the situation, the person becomes the center of dominant interest.

And the philosophy is different. People are not ingots or chess pawns, and

they do not behave in any mechanistic, static sense. On the contrary, as dynamic human organisms, they are changeable, suggestible, highly nonrational, motivated far more by emotion and habit and unconscious causes than by reason and logic. Every individual's behavior in large part is shaped by the ideals and the pressures of his particular society, so that a knowledge of these interrelationships and social definitions is all-important for any real comprehension of basic causes. I drink orange juice, hot coffee, and cow's milk instead of yerba maté or kvass simply because I accept the patterns of the society into which I have been born.

These are the premises on which motivation research attempts to study the Whole Man. Each person is a dynamic individual, with his own inner world of highly individual experiences and feelings. The intellectual activities in his life are comparable to the skin of an apple; the heart of the apple is his emotional system. There is a constant interplay between his conscious and unconscious minds. In considering him as a totality, his psychic system below the threshold of consciousness must be included. And every individual is also tremendously influenced by the attitudes and demands of group life. He has to conform to the conduct and viewpoints of the larger society if he expects to lead a normal life and to be accepted by other people.

Social scientists proceed on the assumption that "human behavior is determined by human decisions; but these human decisions to act in some special manner, and not in another, are arrived at in an essentially nonrational manner." This does not mean *irrational,* which would imply that there are no cause-and-effect relationships between the individual's needs and situations on the one hand, and his goals and purposes for acting on the other. There are such relationships in his decisions; but they are mostly not pure logic at all.

"Americans have been taught to think 'rationally,' and to insist that they do when they don't. As a result, the ordinary individual goes out of his way not to realize the implicit nonrational social customs and systems in which he lives." He is mostly unaware of the basic motivational systems steering his actions and forming his preferences, and his own reasoning on the subject generally beclouds or conceals the real motives. It never occurs to him that his temperament is following some basic philosophy; yet this fact, whether he is strongly materialistic, idealistic, realistic, or mystic, has bearing on his decisions and motives. And actually society is striving to make his social behavior so automatic that he isn't even aware of it.

Because the root causes of anyone's behavior are often not apparent to the individual, the scientist has to develop many tests and procedures that will uncover these causes. Often he ends up in the odd position of having the individual emphatically deny the scientist's explanation of the individual's motives.

Here is the problem, then : How can advertising secure research insights into human behavior for better guidance in motivation and communication?

How can our common-sense judgments be verified? How can we get out of the realm of guesswork and intuition to find out if our strategies are on the right track? How can we find out if our advertising appeals are really important to people or not?

Motivation research offers techniques and bodies of theory from the various humanistic sciences, particularly sociology, social anthropology, psychology, psychoanalysis, psychiatry, and social psychology. And I also find that semantics and various disciplines grouped under communication are extremely relevant to our problems. Because they are studying human beings, the social scientists will never be as mathematically precise as the physical scientists or even the statisticians. But they do offer tremendously helpful guidelines and insights, and after all, that is what management and creative people need.

All of the bickering about motivation research, particularly about statistical validities and psychoanalytic assumptions, is involved with the subject of tools. The controversies ignore the basic problem. Technicians are trying to understand things in terms of tools like statistics or dynamic psychology instead of recognizing what motivation reasearch is seeking to do—which is to understand people. This is the old fallacy of trying to resolve something in the easiest terms, and obscuring the problem. After the dust from all the objectors has settled, the problem still remains unanswered—namely, how do you get at these human beings and at the real causes of their behavior?

The statistical researcher who prefers to live in his completely quantifiable world is literally ruling out any attempt to probe this all-important problem area. By insisting on a rigidly structured study governed by precise validities, he is locking out everything but his preconceptions. Great creative ideas invariably are the insights furnished by the subconscious mind. But there is no subconscious mind in an IBM machine.

One of my scientist friends tells me that this is why he prefers to work in qualitative research. With all its imperfections, it still never loses sight of the problem. By contrast, quantitative research dissects the problem into small bits and pieces, and too often loses track of the primary objective—the seeking for new insights about people's behavior. Lloyd Warner defines science as the art of sticking out one's neck, by which he means that there must continually be new hypotheses advanced to be tested. Progress in science comes from the mistakes of people who have at least tried to open up new avenues for thinking. The pioneers are followed by the verifiers and the technicians, who reduce the new hypotheses to facts and methods. But without the pioneers, there are no new ideas or generalizations.

Freud was one of the great pioneers of human thinking, and he wished to be remembered as just that : the creator of a new research tool for probing the unconscious mind. Psychoanalysis is a means to an end, not an end in itself. It is a means for explanation of the human being in much greater depth than ever before. Psychology as a science exists on two levels: the measuring

level of observable and conscious behavior, and the study of the unconscious —which is by far the most important. Most motives come from the unconscious; it is the source of memory, intuitive judgment, personality structure, suggestion, imagination, attitudes, likes and dislikes. Freud fashioned a new, crude tool which opened completely different windows for peering into the psychic make-up of people, even though he fully realized that he was only rippling the surface of these dark waters.

However, psychology is only one of the approaches in motivation research. The human individual doesn't live alone. He develops as a personality through his interactions with the other people around him. It is from them also that he absorbs most of his general behavior patterns and attitudes, as well as the way he expresses himself emotionally. This is why he also has to be viewed as a member of various groups. He doesn't respond to advertising without considering the attitudes of other people around him toward the product, and even toward the store. He will be influenced in large measure by what his friends and associates think. Several sciences like sociology, social psychology, and social anthropology are important for turning up these group attitudes, the changing currents in the society, who initiates new tastes and how, the differences in attitudes between classes.

It is also important to consider the individual is a member of a much larger society. He is an American; therefore he inherits a whole set of values—a pattern of logic, a sense of time, a moral and aspirational code, notions of the family and of the woman's place in society, a symbol system for communication, and so on. All of these are American values, not universal human laws. Often it is necessary to isolate these in proper perspective, particularly for international advertising and marketing. This is the province of anthropology.

Anthropologists also approach the problem of personality differently than the psychologists. They want to know most of all how does the individual get along with other people. The pattern and the actual mathematical rate of interaction with other people are the crucial factors in personality structure, according to them.

The point is that all of these disciplines belong in motivation research because, each in a different way and yet concurrently through a closely overlapping relationship, they contribute some light on that very obscure and complex thing we call human nature.

3

Because of the emphasis in our schooling, because of the formal attitudes of our society, we focus most of our attention on the superficial aspects of conduct—on the rational part of a person's life, on his conforming conduct, on the parts of his personality that he shows to the world when he is behaving himself. It is all-important that in advertising and marketing we

develop techniques that will let us cut through these superficial aspects and give us much clearer ideas of the real person behind all the masks that he has to wear. It is high time we turned our eyes toward the nonrational, unconscious, subjective, unformal, "feeling" side of his life.

And *her* life, I should add. Because I think we have even far less understanding of the springs of a woman's psychic structure. Infinitely less of her mental life is turned over to the rationality and analytic thinking required of a man working at a job or profession. What is she really like within herself? What is she actually thinking about as she sits for hours being bored by "man talk"? In a study on the new suburban housewife, each woman was asked to define the ideal housewife. Many of them never mentioned their husbands in their definitions. They idealized themselves as either the Mother or the Good Housekeeper, not as the Wife. When asked to state the source of their greatest satisfaction, they chose the area of motherhood. They were pleased with themselves for having successfully raised children, not for being satisfactory wives to their husbands. They saw themselves as individuals, as persons, not as appendages to men.

Social scientists, philosophers, and biographers emphasize that the most revealing clues about the nature of any person are not the things he outwardly says about himself but rather the kind of questions he asks, what he daydreams and hopes about himself, and the role in which he conceives himself.

How can we get some view, some insight into the private thinking and fantasies and wishes which are hidden within people behind the barriers of reserve and incommunicability ?

Our own thinking is cluttered up with excess mental baggage, too much nonsense and inaccuracy that comes to us from the ideals for behavior and the poses that we are supposed to adopt in our society to be a right-thinking citizen in good standing with the village elders. But sometimes we have to take off our Sunday suits in order to accomplish our objectives—certainly if we expect to have clearer awareness of why people act like people.

The credo of the Advertising Federation of America begins with the statement that good advertising aims to inform the consumer and to help him buy more intelligently. This is an admirable statement of principle; but if we only provided information, we would not accomplish what we set out to do—namely, to persuade people. Nowhere in the credo is expressed what every single competent advertising man is trying to achieve : the attachment of psychological associations to his product by combining emotive and esthetic appeals with the sales logic.

The point is sometimes made by ethical objectors that motivation research is wrong because it will permit advertisers to manipulate people against their wills, to sell them things they don't want and don't need. This is a rather silly argument. Wasn't advertising trying to create wants long before motivation research was ever heard of? People didn't realize they needed air conditioners, electric dishwashers, and power lawn mowers for their homes until

advertising created the desires for these products. If motivation research will help us to be more efficient in our advertising appeals and techniques, certainly no one will insist that we should deliberately avoid the use of something in order to give the consumer more of a sporting chance. On the contrary, it would seem to me that the morality is all on our side if we can use our advertising expenditures more efficiently, if we can achieve more effectively what we have long since been trying to achieve.

Actually, while there may be a time and place for many little polite fictions, there also comes a time when our own thinking has to be sufficiently acute to penetrate the fog of fictions and formal attitudes. Even if the social amenities insist that everyone ignore the very existence of sex, a doctor cannot proceed unless he recognizes that it does exist. And so do we in advertising have to be intellectually and intuitively perceptive enough to distinguish between the stereotyped reasons and the actual realities. This is simply to state that whether in regard to advertising's methods and purposes or to people's behavior and motives, we should be intellectually skeptical enough to probe considerably below the level of the common-sense reasonings, the accepted popular notions, and even the individual's own report of his conduct. Motives and motivation mean all the elements in the causes, both conscious and unconscious—all the feelings and attitudes.

For the purposes of advertising, however, we are primarily interested in singling out only those motive forces which are manageable by the creative people. Many obscure and complex factors which may be important clinically are just too subtle for the creative people to reckon with. Cigarette research reveals that masochistic tendencies (deliberately hurting oneself) are important motives in smoking, but for the advertising man this leads nowhere.

We are also concerned not with any individual's peculiar motives but with forces which are common to broad groups and types of people.

Most scientists today feel that there is no such thing as a single, pure motive for anything. There are many dominant motives and subordinate motives which may be involved in people's acts. There is a tremendous interpenetration of motives also. They influence one another in considerable degree. One motive can block out another motive entirely, as happens when a person becomes angry or frightened or thirsty. Mostly, however, they exist side by side.

And actually there is no completely stable aspect to motives. What I may feel impelled to do today may be changed tomorrow by circumstances, or my own mood may be different. My motives when I feel exuberant and cheerful can be very much changed if I feel downcast or depressed. And the direction my motives finally take may be quite different, depending upon whether I am prosperous or hard up. However, in a general sense, there is a definite consistency in motives.

Attitude means the readiness of the mind to react to a situation in one given way. If anyone mentions burglary, communism, horse racing, or child

labor, my mind is all prepared. An attitude can be a motive, but a motive can be many other things besides an attitude.

The word "personality" is used somewhat differently by the scientist than it is by the layman. To the scientist, personality means the sum total of any individual's whole psychic structure, conscious and unconscious, which includes all of his experiences from birth until death. Hypnosis can dig out all sorts of past experiences which apparently have been long forgotten but which still remain far below any recallable level. Yet all these long-forgotten experiences may play a part in shaping an individual's conduct.

Personality is construed to exist on at least three levels, and motivation research is trying to reveal as clearly as possible the motives involved with a product or institution from each level. There is an outer layer, which is the aspect of a person that others see. When we think of someone as amiable or morose or overbearing, this is simply the side of himself that he shows to the world. It is by far the least important. It is an abstraction of inner causes. Much of this behavior is put on and taken off like a robe as we deliberately try to make ourselves agreeable to other people. Also, we will change depending on the role we are called on to play at a particular moment. The same woman can be a stern mother to her children, a compliant lover to her husband, an unpleasant bargain hunter to her tradesmen, an ebullient companion to her friends, and a scheming striver to her country-club set.

This is why it is completely wrong to define any person by a trickle of adjectives describing a few of his or her surface aspects. "Personality" signifies the architecture of the whole person.

Within every individual is also that private conscious world where he spends 75 per cent of his mental time but which he almost never reveals to anyone else. I have carried certain daydreams with me from childhood on that I never expose to other people. My wife and I can tour happily for hours without speaking, myself enjoying my own reveries, and she, it is clear, also living with her own thoughts. My children develop their own barriers of reserve right under my nose, so that at times we are even embarrassed with each other, as strangers are.

This is much more than daydreaming, of course, I don't discuss my status, ambitions and frustrations, although this is a very active thought area for middle-class Americans. I devote considerable thought time to my job strivings, to the problems of my children, to my acceptance or rejection by new friends or work associates. But conventions and, probably, an inability to articulate my real feelings operate to keep me from expressing myself on such subjects.

Then of course there is in every person that vast area of the unconscious which is so important as a source of motives and behavior but about which we know so little. The basic structure of the individual's personality is fairly well organized by the age of four or five, yet obviously it is impossible for any adult to reconstruct the infantile experiences which shaped his own

blueprint. How is it possible for him to see objectively the body of social attitudes functioning in any product area—as, for instance, why men still cling to such completely useless clothing features as lapels, buttons on sleeves, cuffs on pants? Or why we Americans drink iced tea but rarely hot tea, why we forbid coffee to youngsters, why we use cough drops but not snuff (when both serve the same purpose)?

The point is, of course, how can we peer into the individual past this superficial façade which he presents to the world? How can we see in systematic form the framework of social attitudes in these product areas which the individual accepts without ever thinking about? How can we explore for the possibility of differences in these attitudes and motives existing between personality types, social classes, mobile and nonmobile persons? How can we sense the existence and the significance of the underlying currents in the society, such as the preference for brighter colors, for "lightness" in foods and beverage, for casual styles, trends, and drifts which leave some products stranded high and dry and catapult others to dizzy sales peaks ?

Any competent researcher knows it is difficult to get at answers to this type of question. The ordinary consumer is generally very inarticulate about his motives, or perhaps he doesn't even recognize them himself. If you ask the typical motorist why he chooses to patronize a certain gasoline station, he generally singles out "convenience" as the dominant reason. Yet a recent gasoline motivation study indicated that "cleanliness" above all else was the primary attribute most wanted in a service station.

In this gasoline study, we probed to see if the various symbolic designs and color schemes used by the different refineries had any meanings in themselves or if they were simply pretty color and attentional devices. Certainly they play a central part in the physical totality of any station. William Henry of the University of Chicago, who conducted this research, showed very clearly that two of the color motifs and station symbols—Standard Oil of Indiana and Mobilgas—communicated very definite meanings important to gasoline sales, even when entirely divorced from any identification with their product. Standard's color motif and torch design set off a highly positive series of references to patriotism and the Olympic games which definitely contributed an important aura of high moral responsibility and goodwill. Mobilgas's winged horse generated associations of power and speed. Some other gasoline symbol systems had equally high recognition value but aroused no meaningful associations at all.

All of this was occurring at an *unconscious* level. The consumer was not aware that these meanings were being communicated to him. In any area there is a similar amount of unconscious impression going on. It is useless to ask a person directly for these meanings. How could the average individual accurately grasp such subtle nuances of meaning when he characteristically stumbles over gross facts? A study by the National Opinion Research Center

asked people a series of questions which could be checked against official records. Of those who stated that they had library cards, 45 per cent actually did not. Nineteen per cent of those who said they had driver's licences did not. Eleven per cent of the people with automobiles gave the wrong make or year of model.

Motivation research turns to a number of techniques in trying to understand these areas whose existence the individual does not suspect, in which he is inarticulate, or in which he is apt to give the wrong answers. "Depth interviews" are free conversations pointed in the general direction of the problem and its various component elements. The purpose is to cast as wide a net as possible to learn what is on the individual's mind, to determine the kind and quantity of feeling involved (which is not apparent in "yes-no" questioning), and to note if anything in the unguarded conversation contradicts the expressed attitudes.

Rarely does the interpreter take a person's first statement at face value. Very often it is the unsaid which is most significant. And often the point is pieced together from several different interviews.

For instance, in the study of the new suburban housewife mentioned above, almost invariably the women formally gave as their reason for moving to the suburbs the stereotyped answer about wanting more room and fresh air for the children. But as they talked further, it was crystal clear that a far more powerful motive was the wish to escape from the loneliness of anonymous big-city apartment life, the hope that they could integrate themselves into networks of friends. Repeatedly they stated that the neighborhood rather than the house was their first concern.

"Projective tests" are another revealing tool. There are numerous variations of these tests, but all of them are built on the principle of presenting the individual with some ambiguous unfinished situation which he has to complete. He unconsciously reveals the way he looks at the world by his responses. He "projects outward" his attitudes and feelings. There are no right and wrong answers, so he doesn't have to pose and give any expected response. Some of these projectives are capable of quantification by their general tone and meaning, and are relatively simple to interpret. But others require highly skilled and sensitive interpreters, and while they afford extremely revealing glimpses of the individual's psychic structure, they are much too obscure and unstructured in their fullest implications for any exactness.

The sentence-completion test presents the individual with a series of incomplete sentences, which he has to finish. Typical of this approach are these sentence stems from our gasoline study:

A car that really has a getaway....
High octane in gasoline gives....
Rocket fuels in gasoline....
A good gasoline....
My car needs....

From these and similar sentence completions, it is possible to see that most people believe that getaway is a function of the car rather than of the gasoline; that the "zoom" and power claims are received with considerable indifference or skepticism; that people really do not understand how to distinguish one brand of gasoline from another except with the use of terminology from the advertising, which they cannot precisely define, and which is not really the basis of their brand selection.

Apart from the rather obvious directions that the meanings will indicate, sometimes the rich or thin quality of the associations has considerable significance. In a motivation study of building materials, the completions of the stem, "A lumber yard is. . . ." revealed only the most meager kind of associations, such as "a place to buy lumber." In contrast to the buying pleasure and curiosity associated with other retail outlets, the lumber yard is seen as a dull, uninvolving warehouse for boards.

Another frequently used projective is to have consumers tell stories around picture situations roughly related to the problem. In a study of cigarette smoking, a picture of a young girl with an older woman was shown. People were told that the girl had asked her mother if she could start smoking, and they were requested to assume that they were the parent. What would they say? From the tenor of the answers could be derived four perfectly clear-cut attitudes which our society holds on the subject, even if they are almost never articulated:

1. Cigarette smoking is bad, with moral implications.
2. Smoking is worse for young girls.
3. Smoking is denied to immaturity.
4. Few people praise the smoking habit.

We showed a man standing against a wall with the ground littered with cigarette butts. The resulting stories revealed how closely we associate cigarettes with high tension: "The man's wife was having a baby"; "He was nerving himself to see a doctor about an operation"; "He was bracing himself to ask for a job." Almost like a medicine, cigarettes are used for relief of tension—which is purely a psychological property.

Getting people to fill in cartoon "balloons" is another helpful projective for digging out seldom expressed attitudes. In a study of toilet soaps, which are advertised almost totally to women, we wanted to know if the typical husband was happy about having to use the soap which his wife in effect bought for herself and then said to him, "You use this too." In a variety of ways we showed that the man strongly resents this situation. Over 70 per cent of the women also revealed awareness that a man resents his wife's brand of soap as being too feminine ("perfumed," "sissy," "not strong enough").

In another study we sought to determine whether the wife had any hand in initiating home-maintenance projects. We explained the cartoon as follows: "This husband and wife are talking about some decorating or home repairing. What would they be saying?" Analysis of the balloon responses from men

and women indicated that both sexes believe that the woman initiates most of the projects even though all the retail advertising and merchandising of building materials is directed to men.

Frequently we can see these unexpressed feelings by asking which sharply defined types of people can be identified with a certain product or store or institution. We might specify doctors, truck drivers, movie actors, society women, bankers, grandfathers, waitresses, immigrants—types that embody popularly held notions about a definite psychological character, an age level, or even a clear-cut station in the power system of society. Or we may say that brands and companies often have a personality, as persons do, and ask the subjects to specify what traits they think apply to these given choices. We may ask them to match certain qualities with different brands, or we may present them with a forced-choice situation, such as "young-old," "masculine—feminine," "modern—old-fashioned," "active—quiet," "cigar—cigarette smoking."

"Fun-loving," "curious," and "easy-going" are consistently picked out as descriptions of the working-class woman who patronizes mass department stores. The middle-class woman, on the other hand, does not see herself as fun-loving; her self-conceptions revolve so strongly around "moral," "responsible," "serious" as to subordinate the notion of fun.

In addition to many other ingenious projective tests, there are certain scaling devices designed to measure the intensity of attitudes. While all of these approaches are admittedly crude instruments, they are extremely illuminating and fruitful for pushing far past the barriers of inarticulation and ordinary verbal responses. Obviously the indicated course is to try to corroborate and clarify these fresh insights with more straightforward and quantifiable research wherever possible. But motivation researchers generally feel that their most useful function is that of breaking the ground on new frontiers and of supplying broad indicated directions, of advancing new assumptions, new frameworks for thinking.

To illustrate what a wealth of usable and rich insights motivation research offers to advertising and marketing, I want to detail the findings of several specific studies in succeeding chapters. Although these are necessarily dealing with concrete and therefore limiting product problems, they illustrate the potentialities of this type of approach. They show also how this research is cumulative, each study contributing some general principles which help us to a clearer understanding of human motives and human communication.

But any specific studies have to be set in a general frame of relationship to other knowledge. Drawing from the social sciences and also from a great many other specific studies, I shall try to show the psychological and communicational climate in which advertising operates.

In such a frame, the reasons for buying anything will, I hope, acquire a completely different meaning. And the workings of advertising as a communication process will take on a very different purpose.

41/*The Application of Social Science Findings to Selling and the Salesman*

SAMUEL N. STEVENS

In this article the author, an industrial psychologist, shows how information from the behavioral sciences can be applied to sales activities. He presents, with considerable clarity, pertinent psychological information about the salesman as well as about his sales environment.

In one of the most penetrating studies of America as a civilization,[1] Max Lerner defines the distinguishing characteristic of our American tradition as "the emphasis placed on dynamism." "This dynamism," he observes, "cannot be chastely selective, with its elements chosen or rejected on the basis of class outlook and political belief.... The fact is that the American experience has operated in every area. There has been the dynamism of the pioneer and the mechanic, the independent farmer and the trade-union worker; of the toolmaker, the inventor, the financier. There has been the dynamism of the 'company men'—the managers, the factory organizers, the salesmen who have made the irrepressible practical imagination of Americans world-famous."

The psychologist, the sociologist and the economist have all recognized that the saga of American success is vested in the willingness of men of vision to dare to dream, and of hard-headed entrepreneurs to take the calculated risk. At the center of our business enterprise has been the man who sold the products of our mines, rivers, forests, and factories. Since the early days of the twentieth century, when the American people began to develop needs beyond the most primitive, it has been the peddler, wandering over the countryside with his cart of wares ;the drummer, traveling by horse and buggy to visit the general stores along the highways and byways of our country; and the fast-talking, lone-wolf specialty salesmen who, even as they sold their goods, created expanding needs and opened up ever larger markets. It is no exaggeration to say that, from an economic point of view, selling has been the most dramatic symbol of American dynamism. And the salesman

[1] Max Lerner, *America as a Civilization* (New York : Simon & Schuster, 1957).

SOURCE : From *Aspects of Modern Marketing, AMA Management Report No. 15* (New York : American Management Association, Inc., 1958), pp. 85-94. Samuel N. Stevens : President, Stevens, Thurow and Associates, Inc.

has been called the last but most enduring social symbol of a restless, hungry, growing American culture.

A HISTORICAL PERSPECTIVE

In the early years of the twentieth century, the psychologist and the economist were the social scientists most interested in selling as a social phenomenon and the salesman as an economic factor in modern society. From 1900 to 1925, the psychologist's interest in these areas was focused primarily upon three problems :

1. The selection of men who would succeed as salesmen.
2. The psychological nature of selling as a form of behavior.
3. The training and supervision of the salesman as aspects of learning and motivation.

During these years, advertising, sales promotion, and what there was of market research were thought of primarily as supporting mechanisms for the payoff work of the face-to-face salesman. In 1907 Walter Dill Scott[2] published the first systematic analysis of the problems of advertising and selling from the psychological point of view. From that time until the present, the books and articles written on the subject have been legion. The fact that much of this literature has been superficial, trite, and sterile need not cause us to overlook the important facts which underlie the problems as they were defined by both the psychologist and the economist.

The first important research in the selection of salesmen was carried on by Walter Dill Scott for the American Tobacco Company. Scott's search for important differences in the psychological characteristics of good and poor salesmen and of salesmen and non-salesmen was a pioneering effort. The fact that no significant results were achieved should surprise no one with any time perspective, for instruments capable of the precise measurement of individual differences in areas of sales significance did not then exist. Since that time, of course, the persistent quest for psychological understanding in this area has met with more success. Gradually we have developed a valid analytic concept of the sales environment and reliable instruments for the measurement of most of the important differences which distinguish the persuasive, hyperkinetic individual who can sell from the more analytical, less aggressive person who will find more stable occupational patterns more congenial.

The interest of psychologists in the problems of training and motivation began to be expressed in research form after World War I. The impressive

[2] Walter Dill Scott, *The Psychology of Advertising* (Boston : Small, Maynard & Co., 1907).

psychological instruments and the greater understanding of the psychology of learning developed through research on military problems during the war led both professional and business men to be overly optimistic about the successful application of these tools and insights to the sales training situation. Yet continued research in the field of communication has since produced a body of technical and scientific knowledge which has taken most of the guesswork out of the organization of materials for sales training purposes. And the growth of clinical psychology, with its intensive studies of the personalities and social motivations of individuals, has made the supervision of salesmen a much more creative management function than it had been possible to achieve through the purely statistical and analytical approach taken prior to World War I.

SOCIO-PSYCHOLOGICAL CHARACTERISTICS OF SALESMEN

At this point, let us consider, in rather general terms, the major conclusions which social scientists have reached in regard to the social and psychological characteristics of salesmen; later, we shall deal in the same manner with conclusions reached in regard to the sales environment.

1. *There is no significant relationship between intelligence-test scores and sales success.* The requirements for ability to learn, to solve problems, and to adjust quickly to the sales situation obviously differ widely in practice, depending upon the nature of the product, the type of selling involved, the competitive nature of the market, and many other such factors. Specialty selling and engineering selling, for example, make such different demands of the salesmen that they can hardly be classified as being of the same order of experience.

2. *No significant relationship has been found between independent measures of personality traits and sales success.* Many of our "classical" notions of what makes a salesman do not appear to have any validity when put to psychological test. As selling has become more professional, the successful salesman has become less of a stereotype.

3. *No correlation exists between age and sales success.* Many research studies have revealed that, in companies which have established fairly rigid age ranges for the selection of salesmen, these standards have been almost as frequently ignored by the field sales managers as they have been recognized. The simple fact is that age, although theoretically related to maturity, is not absolutely correlated with it. In short, many young men are more mature than older men.

4. *There is no correlation between measurable character traits and sales success.* Many "typical" character traits ascribed to salesmen since the early days of the hard sell have been found to have little basis in reality. We find

that the traits which make for success in selling are the same as those which win the approval of employers in other occupations.

5. *There is no significant correlation between level of education and sales success.* Respect for education as an important tool in selling has grown by leaps and bounds. There has, in fact, been a tendency to set artificial levels of educational achievement for many sales positions. Yet careful statistical analysis of the educational backgrounds of individuals who are succeeding as salesmen reveals no such firm relationship between the amount of formal learning and the strict educational requirements for success in a given sales job. This does not mean that education is of no importance; it simply re-emphasizes the fact that there are many factors other than education which ultimately determine the success or failure of the salesman.

6. *No significant correlation exists between level of sales activity and sales success among individual salesmen.* This finding may be very difficult for many sales managers to accept. By tradition as well as by inclination there has been an understandable tendency for managers to believe that increased day-to-day activity will more or less inevitably produce increased sales volume. Theoretically, this is, of course, correct : A given man with a given selling method will produce more through sustained activity. Yet the fact is that attempts to increase the level of sales activity generally contribute less to increased sales volume than an equal amount of attention directed toward improving the selling method. Research clearly indicates that better selling techniques applied to carefully selected prospects are more likely to produce results.

7. *Each of the above factors has significance when studied in relation to all of the others in individual salesmen.* While no one of the factors cited above—age, education, personality, level of activity, and the rest—seems to have predictive significance, research indicates that when such social and psychological variables are studied in relation to one another the resulting profiles are valid guides for the selection of men who are likely to become successful salesmen. It was not until a very large number of important psychological instruments had been developed and more sophisticated statistical methods for the treatment of data had come into being that we were able to secure significantly useful results from our research in the evaluation of sales potential. Today it is possible to combine the social and psychological factors in such a way as to determine with considerable accuracy, in advance of employment, the likelihood of success in selling.

8. *Such study as that indicated in point 7 above can provide a useful tool for selection and development.* When, on the basis of research which compares the successful with the unsuccessful salesmen, a profile is built which reflects the unique characteristics of the successful men, it becomes possible to upgrade the sales force progressively through the use of the profile as a critical standard for the selection of new men.

9. *Salesmen are more likely to succeed when chosen with regard to the*

kinds of customers they will deal with than in terms of the types of products sold. We must recognize that the salesman does not operate in a vacuum. He works in a sales environment in which he and the potential customer are important factors. When the salesman is compatible with his customer, he has a much greater chance of success than when he is not. Therefore, an important part of the analysis upon which a sales profile is based should be a study of the kinds of customers the potential or prospective salesman will deal with.

10. *Salesmen differ from non-salesmen in four important ways* :
    a. Salesmen are persuasive rather than critical.
    b. Salesmen are intuitive rather than analytical.
    c. Salesmen have higher average energy levels (expressed in activity).
    d. Salesmen are more strongly motivated by the desire for prestige, power, and material gain than by a service ideal or the need for security.

11. *Salesmen's interests cluster around a dominantly persuasive common core.* Almost all of the important research into the interests of salesmen and marketing people substantiates this finding. The role of secondary interests varies with the nature of the product sold and the peculiarities of the sales environment itself. For instance, people engaged in technical and scientific selling almost always have a secondary interest that is either engineering or scientific, or both, while a man who is successful as a feed salesman will have a range of interests of relatively minor strength compared with his persuasive interest. In both cases the product and the sales environment give validity to the interest pattern.

These points represent the major findings of research on the socio-psychological characteristics of salesmen. The extent to which a manager of salesmen can creatively and imaginatively apply this knowledge in finding and developing men who can sell is the measure of his managerial success.

NATURE OF THE SALES ENVIRONMENT

Turning our attention now to the environment in which the salesman works, let us consider those environmental characteristics which psychological research indicates contribute most strongly to successful selling.

1. *An atmosphere of mutual compatibility must be achieved.* As we have already indicated, it is wise to select the salesman with primary consideration for the kind of customer he will deal with. When this is done, one of the most important aspects of natural environmental compatibility is realized. When the salesman knowingly plans his call to meet the convenience of the customer and makes his presentation in terms of known customer needs, a further development of a compatible environment takes place. Finally, the achievement of a mutually agreed-upon sales decision involves the realization by both the customer and the salesman of an increased sense of personal worth. Compatibility therefore begins with a sense of community between

salesman and customer based on congenial personality factors; it develops as a skilled salesman molds the sales environment; and it achieves its climax through the experience of a heightened sense of personal worth as a sales decision is mutually arrived at.

2. *The customer's attention must be focused on the salesman and his message.* The psychological factors involved in the making of a sale have long been recognized. The structuring of the sales environment so that the salesman and his message become the focal points for the attention of the prospective customer is one of the most widely acknowledged fundamentals of sales training.

3. *An atmosphere of permissiveness must be established by evoking a felt need on the part of the customer.* Successful selling results when the sales environment is permissive rather than hostile or indifferent. Usually, such a positive, permissive environment is achieved as a direct result of felt need on the part of the customer.

4. *The natural aggressiveness of the salesman must be channeled to enhance the customer's ego; it should not be allowed to express itself in self-assertion, dominance or hostility.* We must recognize that in any sales situation there is an element of psychological competition and a striving for ego-dominance on the part of both the salesman and the customer. That salesman is most likely to be successful who is able to achieve control by enhancing the ego of the customer rather than by asserting his own dominance.

5. *An atmosphere conducive to decision and action toward the resolution of the customer's felt need must be established through the development of feelings of satisfaction and profit.* The closing of a sale has long been considered the central problem in sales training. A great deal of research has been devoted to determining the most effective techniques by which the customer can be led to sign on the dotted line. Whatever the techniques recommended by the professional experts in the field, one essential psychological condition must be achieved. This may be described as the resolution of felt need through the development of feelings of satisfaction and profit. The psychological as well as the economic benefits of affirmative action in line with the desires and recommendations of the salesman become compelling conditioning factors to direct action.

The good salesman is aware, implicitly, of these things. He has an intuitive feel for them. A subtle aspect of sales training is the development of an *explicit* understanding of these factors, so that the salesman can manipulate the sales environment with more sureness and awareness.

BASIC SELLING TOOLS

There are a number of basic tools with which the salesman must be equipped in order to implement the social science findings described above in the way that will be most productive for his particular company and its

particular products. In general, these basic tools are of three major types, as described below.

1. *Technical product knowledge.* Tangible and concrete information concerning his company's products, processes, and services constitutes the salesman's basic tool. This type of knowledge can be effectively communicated to salesmen in groups by means of demonstration and discussion, or individually by means of well-prepared brochures, booklets, and the like. Adequacy and correctness of product knowledge must be constantly checked and evaluated by the sales supervisor. Research has revealed that many times the failure of the salesman is the result of inadequate or incorrect product knowledge. It cannot be assumed that because a salesman is told once he will remember forever.

2. *Administrative techniques* (organization of territory, development of call pattern, record keeping, etc.). Good sales management today attempts to develop wisdom and know-how in this area through extremely concentrated training and close face-to-face supervision. It is not natural for a salesman to consistently reorganize his detailed knowledge of territory changes; neither will he readily accept the discipline of highly structured call patterns; and he simply is not temperamentally suited to the correct maintenance of a large number of records. The better the man is as a salesman, in fact, the less congenial he is likely to find the necessity for close and constant record keeping. Management, therefore, must develop a number of highly effective motivational methods to secure the kind of cooperation from the salesman that good sales control requires.

3. *Group training* (face-to-face sales strategy and motivation, demonstration, directed practice, side-by-side field practice). Many studies have been carried on to determine the relative effectiveness of field demonstration and role playing in teaching selling strategy. The consensus at the present time is that both of these methods are highly effective. In view of the central psychological principles we have discussed, it is clear that the salesman must *do* in order to learn. Listening and observing are, of course, forms of doing, yet they do not have the same efficiency-producing effect as actual field performance under observation. It does not seem likely that there will ever be an effective substitute for side-by-side field practice carried on sympathetically by the sales manager and his salesman.

CHANGING TIMES, CHANGING NEEDS

Today, only a small segment of the total sales environment presents a congenial condition for direct selling. The needs and wants of the consuming public are being predetermined through the use of advertising and sales promotion in magazines and on radio and television. In the consumer area, for example, the sales merchandiser no longer deals directly with a customer; instead, he deals with a buyer or a buying panel. His problem

is not to influence the ultimate consumer to buy, but rather to convince the professional buyer that the other functions of marketing have already created a demand for the product, and that he can profitably make precious shelf space available. This situation presents the consumer salesman with an entirely different challenge, to meet which he requires an entirely different selling approach. He must be able to talk technically in terms of frontages, shelf space, product movement, supporting promotions, the economic effects of couponing, the secondary services which the manufacturer will render the distributor, and the influence of displays on the impulse buyer.

In the industrial field the same kind of problem exists, although it has a slightly different psychological context. The industrial salesman must sell to a professional purchasing agent who has received his product specifications from some other company official. As a result, the industrial salesman must establish friendly relations with management users in order that they will specify his product when requisitioning through the purchasing office. With regard to the psychology of selling, this means that the industrial salesman must be a good public relations man and a good service engineer far in advance of the occasion of actual felt need on the part of the business.

It becomes obvious that today's salesmen are not entrepreneurs but professional communicators, working within the framework of a fairly rigid management system. Thus, they are not wholly dependent on individual performance or productivity for income or economic advantage. The psychological problems, therefore, not only continue to be related to the selection of the kind of man who will accept the challenge of professional persuasiveness in a highly structured situation but also have to do with the development of techniques by which the use of incentives and internal and external motivations can be rationalized and made effective. The salesman must be able not only to understand his product and his customer but to relate this understanding to the economics of marketing and to such institutional problems as pricing and profit.

The typical problems which interest the psychologist and the sociologist today derive from an appreciation of the dynamic elements which comprise the marketing complex. "Motivation research" is a phrase symbolic of the new focus of interest. Projective techniques, as applied to both the salesman and the customer, are new devices. The nature of the corporate image, the power of the brand name, and the maintenance of a consumer franchise are all attracting the research time and interest of the social scientist. Morale studies, as they reveal the attitudes of salesmen toward the sales process and the company product, are assuming new and increased significance. The professionalization of sales training—with its highly operational definitions, its use of double and sometimes triple stimuli as learning facilitators, and its dynamic implementation of other incentives than money alone—is of increasing socio-psychological importance.

Hovering over these more highly individualistic problems are many which

have to do with the sheer economics of distribution. The costs of doing business today threaten to eat up the ever-narrowing margin of profitability. Basic and applied research on products, packaging, and production techniques take an increasing toll from the consumer's dollar. Fringe benefits, pensions, and unemployment compensation involve added administrative costs which throw the traditional corporate concepts of doing business out of balance. These considerations cannot fail to affect the salesman and his selling effort.

TOWARD A PSYCHOLOGY OF MARKETING

Clearly, great changes have occurred in our economy during the past 15 years. The impact of these changes must be appreciated if sales management is to meet the challenge. The economic and social character of the mid-twentieth-century marketplace is the direct result of the fact that American dynamism has continued to work steadily toward the adaptation of our capitalistic, competitive society to the increasing complexities of a worldwide revolution. The more complex our economic society becomes, the more unstable it is. The greater our economic resources to meet our expanding needs are, the more fierce competition becomes and the more critical the role of selling appears to be in the marketing complex.

Free enterprise, symbolized by the freewheeling entrepreneur of an earlier day, has been subject to many social and political controls. Government has assumed the role of the father-protector of the consumer. Sheer economic power is no longer looked upon with approval by many highly-placed Government officials. Efforts to place limitations on competition through the use of arbitrary economic power have been most vigorous at the very time when competition itself has been most bitter. The very tentative and uncertain balance between demonstrated need and capacity to produce is in constant danger of being lost. We observe, with a growing sense of frustration and concern, a spiraling gross national product and a tightening margin of gross profit.

It is in the light of these dynamic changes that mid-century selling has been forced to become an integral part of a large and more complex economic process. We call this larger process "marketing." In an earlier day, advertising, sales promotion, credit and deferred-payment plans, and product development were supplementary aids to direct selling. Today these functions of marketing are themselves aspects of a total sales effort, and face-to-face selling is no longer the dominant causative factor in the distribution of goods.

This transformation is not entirely accepted by salesmen and their sales managers. Many of the frustrations now being experienced are the direct result of the failure of sales management realistically to adjust the role of the salesman to the changing patterns of modern marketing. Unless new insights are quickly gained, we may find ourselves in a declining economy.

We may see a depression in the midst of plenty—a "profitless prosperity", as some have ominously called it.

Because selling has become marketing and because the entrepreneur salesman has of necessity become a professional, the need for more exact and more discriminating selection of sales personnel has become more pressing than ever. Our research into the characteristics of the "new" mid-twentieth-century sales-marketer has produced results which are most encouraging. The selection profiles which we have developed, in both the consumer and the industrial fields, reflect the changes in the sales job and in the characteristics of the successful salesman.

We are sure that, at most levels of selling, the sales-marketer must be more educable and have a higher intelligence potential than the salesman of the past. He must be less of an individualist and more of a team player. He must be as strongly motivated for personal success as salesmen ever were. He must be a more disciplined person, with greater control over his energy output. He must be more of a student, using his fund of marketing and sales knowledge with greater intuitional skill. He must be capable of more precise analysis of the marketing variables which affect his sales effort, and he must acquire additional skills in organizing, planning, and scheduling his sales work.

It will be obvious to all thoughtful sales managers that this type of salesman will require more guidance and will profit more from well-scheduled training. His economic requirements will be greater. His chances for professional growth will have to be more carefully spelled out. Sales supervision will require a higher degree of real managerial leadership. From every point of view it is reasonable to suggest that, *as selling becomes marketing, it also comes of age.* An expanding economy and an enlarged opportunity for personal financial achievement go hand in hand.

The psychologist and the sociologist may become true servants of management as they assist it, through research and consultation, in achieving increased understanding of the nature of the marketing process and the role of the salesman in it.

42 / How Many Salesmen Do You Need?

WALTER J. SEMLOW

Field selling—often the major part of the marketing budget—needs to be subjected to rigorous scrutiny. There are many ways to make this operation more efficient. The author gives a number of practical suggestions on how to approach this important decision-making area.

For all our progress in developing total marketing concepts and ways of integrating and coordinating the elements of the marketing mix, the practical marketing manager still faces some basic operating problems which are as difficult today as they were twenty years ago. Perhaps one of the most elusive of these management problems is that of deciding how many dollars to spend on the selling effort. Thus your own common sense may indicate that more salesmen are needed in your field organization; determining how many more are required to optimize the volume-expense-profit relationship is quite another matter. Or, conceivably but less probably, the same problem might arise in connection with reducing the size of the sales force.

General selling expense, of course, is made up of many different items of cost. It includes the salesmen's salaries or commissions, the field and home office supervisory and clerical costs, the advertising and sales promotion expenditures, travel outlays, convention expenses, and many other items. Since the direct and indirect cost of maintaining a *field* sales organization is often the major part of total selling expenses, a method of determining the optimum number of salesmen required to develop the most profitable selling effort is most desirable.

From this point on, let us think specifically in terms of increasing the sales force. In getting at the answer to this problem there are certain well-known factors involved with which every marketing manager is familiar. For example:

Some increase in total sales volume results whenever another salesman is added.

Increasing the number of salesmen by, say, 50% will produce something less than a 50% increase in volume, except in very unusual cases.

Where a company's sales volume is below its capacity to produce, the profit margin on additional volume is substantial.

When sales volume approaches plant capacity, a decision must be made by management as to investment in plant expansion. If plant capacity is to be expanded, it will generally be a substantial addition, and increased sales effort and expense will be called for to utilize this new capacity.

SOURCE: From *Harvard Business Review,* vol. 37, May-June, 1959, pp. 126-132.
Walter J. Semlow: President, Barrington Associates, Inc.

Somewhere there is a point in adding salesmen (and field selling expense) beyond which it is uneconomical to go in the pursuit of volume.

The problem is to evaluate these factors in relation to your own business and to determine exactly how many salesmen you should have and what can be forecast as improvement in operating profit from adding more salesmen, both with and without plant expansion.

NEW METHOD

Since this article proposes a method for determining the optimum number of salesmen, it might be well to ask the question: "Optimum in terms of what?" Certainly more than just the highest dollar sales volume. The highest dollar profit? Or the highest profit in percentage on sales volume? Or the highest profit in percentage on investment? The method presented here gives the answer to each of these questions. However, though there might be cases where total dollar profit is more important than percentage of profit on investment, the latter yardstick is the one considered to be controlling in this analysis.

Basic Assumptions

Before discussing the process by which to determine your future needs in number of salesmen, it is necessary to make certain simplifying assumptions:

(1) You are not already obtaining a top-heavy share of the sales volume in your industry.

(2) Your business is one wherein sales manpower face-to-face with customers is a major factor in your selling job compared to advertising and other marketing adjuncts.

(3) A substantial increase in your sales volume would not bring your share of industry volume to a point where unhealthy retaliation by competitors would be incited.

(4) You have, or can, develop market potential data which will tell you what percentage of your total sales volume should come from each geographical area if all areas were to be worked with equal efficiency.

(5) You have a sufficient number of salesmen, at present, to provide a sound background for statistical analysis.

Simple Formula

You are now prepared to begin to develop, through a combination of judgment and mathematics, the exact point at which it will no longer pay you to add another man to your field sales force. The formula for arriving at this answer is simple; the only problem is getting the necessary facts to make it work. Here it is:

$$S(p)-C>0$$

Where :

S=sales volume that each additional salesman will be expected to produce
P=the expected profit margin on this sales volume
C=the total cost of maintaining this salesman in the field

When the cost of adding the last additional salesman equals the profit on the sales volume he is expected to bring in, you have reached the end of the road. In fact, as the formula indicates, you have passed it. Since there is little sense in just trading dollars, the formula requires the profit to exceed the cost.

Two of the three pieces of factual information required in this formula can be obtained quite readily from accounting records: (a) the operating profit margin on each dollar of added volume, and (b) the total cost of maintaining each additional salesman in the field. This latter item should of course include the increased administrative, supervisory and clerical costs, not just the direct salary and travel expenses of the salesman.

Practical Dimensions

The sales volume which one additional man might be expected to produce is not so easy to determine, and the method presented hereafter is aimed at assisting in this determination. It is well known that, in general, if two men are put into a territory where only one man worked before, the total volume from that territory will increase. The crucial question, of course, is: How much will it go up? Having the answer to that question we can make a logical approach to determining the best number of salesmen for a company. Of course, putting two men in a territory where there was one man before and increasing manpower 100% is too oversimplified. We must also know what volume to expect from 1% or 10% or 40% more salesmen.

There is no universal answer to this question which will apply in all ways to all companies. The factors involved will differ from company to company. In the illustrative analysis that follows, it is assumed that each present salesman would produce in any given area as much as any other salesman. Of course, this would not be true man-to-man because of variations in individual ability, but since our only purpose in making this assumption is to determine average performance in territories of various sizes, the assumption is sound as long as the present sales force is large enough to provide a reasonable statistical sample. This, of course, was one of our preliminary stipulations.

It is also assumed that each new man added would be, on the average, as good a salesman as the present average man. Now, of course, this will be true only after the new man has been trained and has gained some experience, and only if our standards of selection and training are maintained, but it should be true over a period of years.

As in most analyses of what would happen by changing one element in a complex situation, it is convenient to consider all other elements as fixed. In this case, the variable with which we are concerned is the number of salesmen, so that the fixed elements are the other parts of the sales operation, except only as they may vary directly with the number of salesmen.

Finally, for the sake of simplicity, it has been assumed that the competitive situation is relatively equal in all territories. If, in any particular case, this assumption, or any of the above assumptions, is obviously in error, adjustment can be made for such variances by management's seasoned judgment. We must seek first to establish the overall dimension before adjusting it to the realities of individual situations.

Required Figures

The first step in this analysis is to determine the sales potential for each salesman's territory. (The determination of territory potentials is a vast and varied subject in itself, and it is not intended here to outline or discuss how to determine these potentials; the method will vary with each company and often with each product.) For the purposes of this analysis, territory potential should be expressed in per cent of the total area to be worked. The data on potentials should be broken down by small geographical units, both to permit determination of potentials for present existing territories, and also for any future territories that might be set up.

Having determined the potentials by individual salesmen's territories, the next step is to compile the actual sales performance in each territory in dollars—preferably over a long enough period of time to eliminate abnormal sales situations from year to year. Now divide the dollar sales in each territory by the per cent of potential in each territory. This will give the *dollar sales for each 1% of potential,* which is the key figure in the analysis.

It may be generalized that a large number of salesmen cultivating many small territories will provide a larger total volume than will only a few salesmen covering large territories. This does not mean more profit necessarily; but, at the moment, we are only concerned with determining how much more volume past experience indicates will be produced by adding a certain number of additional salesmen.

The method of application follows naturally. Let us see how it works, using actual figures.

ACTUAL CASE

This type of analysis has been made for several companies of varying size, ranging from 12 to 200 men. In general, it has been found that the larger the sales organization, the more accurate the results. The example chosen for presentation here concerns a relatively simple organization of 25 one-man territories.

Plotting the Data

In Exhibit I these 25 territories have been listed in the order of their percentage of total potential. Casual inspection of the exhibit reveals that

EXHIBIT I. BASIC FACTUAL DATA PERTAINING TO 25 SALESMEN'S TERRITORIES (IN THOUSANDS OF DOLLARS)

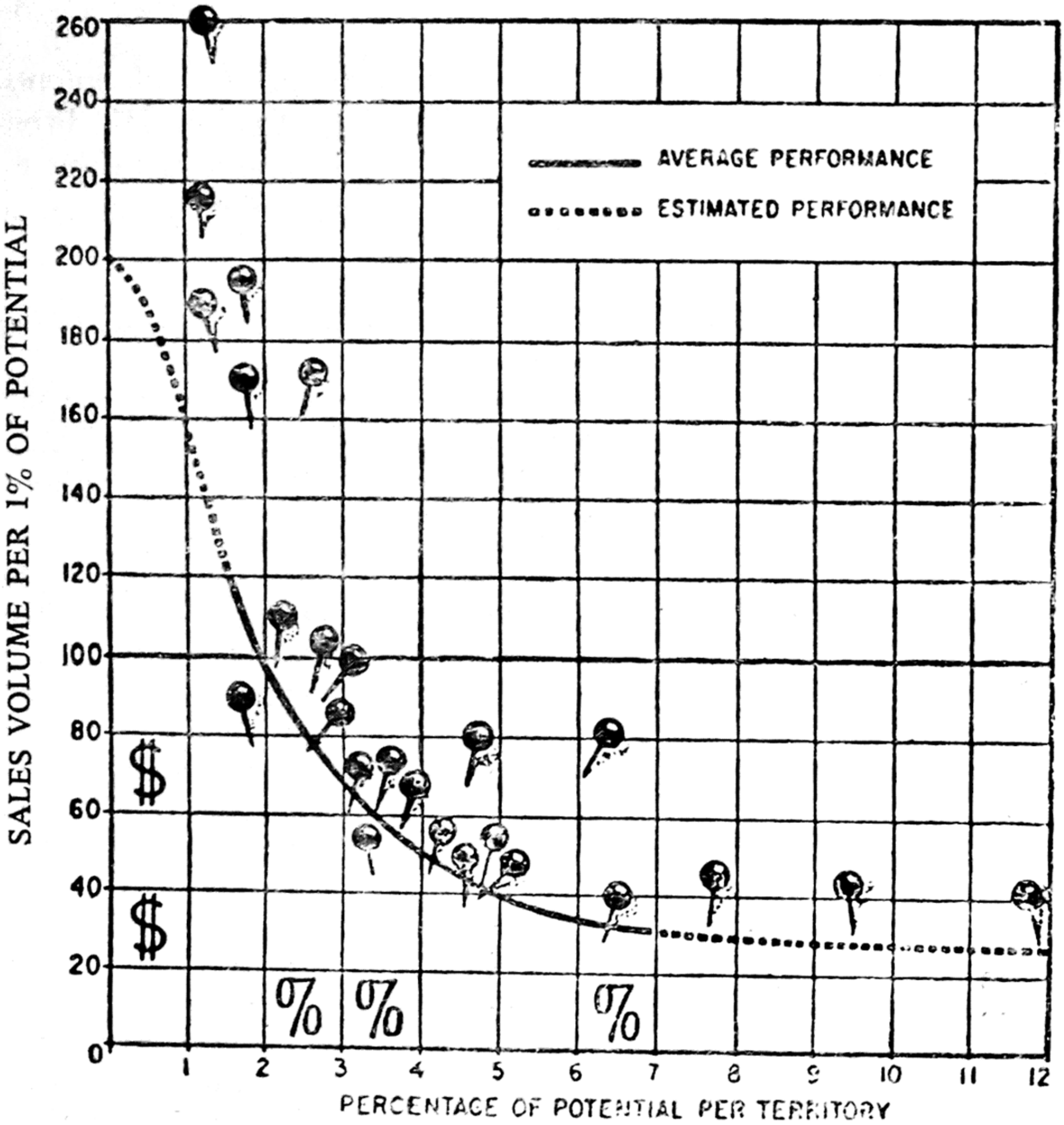
Territory designation	*Size of territory in per cent of total potential*	*Total sales per territory*	*Sales per 1% of potential*
1	11.89%	$351	$29
2	9.53	300	31
3	7.68	244	32
4	6.36	179	28
5	6.07	393	65
6	4.78	200	42
7	4.75	192	40
8	4.64	312	67
9	4.58	169	37
10	4.10	187	45
11	3.75	218	58
12	3.42	210	61
13	3.33	151	45
14	3.08	186	60
15	2.65	234	89
16	2.61	235	90
17	2.56	194	76
18	2.50	398	160
19	2.16	208	97
20	1.86	344	185
21	1.83	288	158
22	1.80	140	78
23	1.43	252	177
24	1.39	346	250
25	1.25	257	206
	100.00%		

there is a marked increase in the sales per 1% of potential as the territories decrease in potential. However, this trend is not uniform territory by territory. There are many irregularities. This is natural, for individual salesmen may vary greatly in ability and experience, and some territories may have been worked longer than others.

It is desirable before proceeding further to even out these irregularities, thus producing a smoother average trend of sales volume per 1% of potential for territories of varying size. These irregularities can be smoothed out by statistical methods, but it is probably easier to employ graphic methods.

Even if the statistical method is used, it is better to transfer the results to graphic form for further analysis.

EXHIBIT II. RELATIONSHIP BETWEEN SALES POTENTIAL PER TERRITORY AND SALES VOLUME PER 1% OF POTENTIAL



Accordingly, the data in Exhibit I have been plotted on Exhibit II, and an average trend line has been drawn substantially below the performance data for several of the smaller territories. These have been disregarded since they are known not to be typical for varying reasons. Some of them are located close to the home office and have been cultivated actively for many years. Others are known to have a large part of their potential in a few big accounts which are responsible for a substantial volume. Other territories are covered by unusually experienced and capable salesmen. It is in the interest of conservatism to set aside, so far as possible, such known unusual situations and to draw the trend line to fit the "typical" territories, extending it to very large and very small territories by estimation.

The termini of the curve are estimated on the basis of (a) how much business might be secured if the company had an infinite number of salesmen

(zero potential per salesman) and (b) how much business it would do if it had only one salesman. While going to such meticulous extremes may seem pointless, it provides "perspective" in drawing a practical trend line.

Analysis of Potential

From this trend line on Exhibit II, sales volume per 1% of potential for varying sizes of territories has been transferred to Exhibit III. From this exhibit it is apparent that the company's volume increases with the number of salesmen, for the sales volume per 1% of potential increases as the territories get smaller.

EXHIBIT III. COMPUTATION OF PROJECTED TOTAL VOLUME WITH VARYING NUMBERS OF SALESMEN (IN THOUSANDS OF DOLLARS)

Number of salesmen	*Size of territory in per cent of total potential*	*Sales per 1% of potential*	*Total sales volume*	*Sales per average salesman*
200	0.50%	$190	$19,000	$95
150	0.67	180	18,000	120
100	1.00	160	16,000	160
80	1.25	141	14,100	176
65	1.54	122	12,200	188
50	2.00	100	10,000	200
40	2.50	80	8,000	200
30	3.33	60	6,000	200
25	4.00	50	5,000	200
20	5.00	40	4,000	200
16	6.25	33	3,300	206
13	7.70	30	3,000	231
10	10.00	27	2,700	270

It is also apparent that the average salesman will produce about the same volume of business, whether he has a 2% territory or a 5% territory. Of course, if territories are made very large, then the individual salesman's volume will probably increase somewhat as he "skims the cream" from this territory. On the other hand, the salesman has just so much time and energy to put in, and doubling the size of his territory will hardly double his effort. In other words, adding to his territory will not add materially to his personal sales volume unless his present territory is restrictively small and he is transferred to a much larger one.

Varying the Volume

Once the total sales volume that might logically be expected from varying numbers of salesmen is determined, it becomes necessary to compute the profit that can be derived from various sales volumes. This can be estimated

from a breakeven chart and study of working capital and estimated plant investment requirements at different volume levels.

It is reasonable to expect that the profit margin will vary with the level of operations, since certain fixed costs concomitant with increases in plant investment are to be expected. In this example, the amounts of fixed costs for various levels of sales volume are estimated thus:

Volume levels	*Fixed cost*
Up to $8,100,000	$ 600,000
$8,100,001—$12,300,000	800,000
$12,300,001—$16,100,000	1,100,000
$16,100,001—$19,000,000	1,300,000

From the breakeven chart it can be figured that the margin available for profit and variable selling expense is 35% of sales volume less the fixed expense incidental to that volume bracket. For example:

If sales volume were $8,000,000, this margin would be found by finding 35% of the volume ($2,800,000) and subtracting the fixed expense for this volume of $600,000 to yield a $2,200,000 margin. For a $10,000,000 volume, this figure would be $2,700,000.

The dollar profits before the variable sales expenses for a number of possible volume levels are shown in the third column of Exhibit IV. It should be noted that these profits increase with sales volume (Column 2), although at a declining rate.

EXHIBIT IV. DETERMINATION OF OPERATING PROFIT WITH VARYING NUMBERS OF SALESMEN (IN THOUSANDS OF DOLLARS)

Number of salesmen	*Estimated total company sales volume**	*Operating profit before variable selling cost*	*Variable selling cost*	*Operating profit†*	*Total investment*	*Operating profit on sales volume*	*Operating profit on investment*
200	$19,000	$5,350	$4,000	$1,350	$17,600	7.1%	7.7%
150	18,000	5,000	3,000	2,000	17,200	11.1	11.6
100	16,000	4,500	2,000	2,500	14,400	15.6	17.4
80	14,100	3,835	1,600	2,235	13,640	15.8	16.3
65	12,200	3,470	1,300	2,170	9,880	17.8	22.0
50	10,000	2,700	1,000	1,700	9,000	17.0	18.9
40	8,000	2,200	800	1,400	6,200	17.5	22.5
30	6,000	1,500	600	900	5,400	15.0	16.6
25	5,000	1,150	500	650	5,000	13.0	13.0
20	4,000	800	400	400	4,600	10.0	8.7
16	3,300	555	320	235	4,320	7.1	5.4
13	3,000	450	260	190	4,200	6.3	4.5
10	2,700	345	200	145	4,080	5.4	3.6

* From Exhibit III
† Column 3 minus Column 4.

We must now establish the cost of maintaining each salesman in the field, covering not only the salesman's personal income and travel expense, but such other variable expenses as home office staff, advertising literature, technical service, and any other expense increments incidental to adding one more man to the field force. This has been estimated at $20,000.

Profit on Investment

As noted at the beginning, probably the most important yardstick for determining the optimum number of salesmen is the profit return as a per cent of the investment. Total investment at any volume level is considered to consist of plant investment plus working capital requirements.

In this example, we have assumed that the working capital requirements are 40% of sales volume at all volume levels; that present plant investment is $3,000,000; and that the present plant will service a maximum sales volume of $8,100,000. The additional plant investment required for various volume levels has been estimated as follows:

Volume level	*Incremental investment*
$8,100,000—$12,300,000	$2,000,000
$12,300,001—$16,100,000	3,000,000
Over $16,100,000	2,000,000

We have now established the volume which might be expected from any given number of salesmen; the profit that might be earned from this volume; the total investment required for such volumes; and the cost of maintaining each salesman. From this data, the following must be computed:

Net dollar profit which will accrue with varying numbers of salesmen.
Per cent of profit to volume of sales.
Per cent of profit on the investment.

These figures are presented in Exhibit IV; the same data are shown graphically in Exhibits V and VI.

Optimum Number

The exhibits allow us to study the relationships of volume and profit, and to pick the optimum numbers of salesmen in the light of our goals and objectives. For example:

If the goal is total dollar profit, the company should have approximately 100 salesmen.

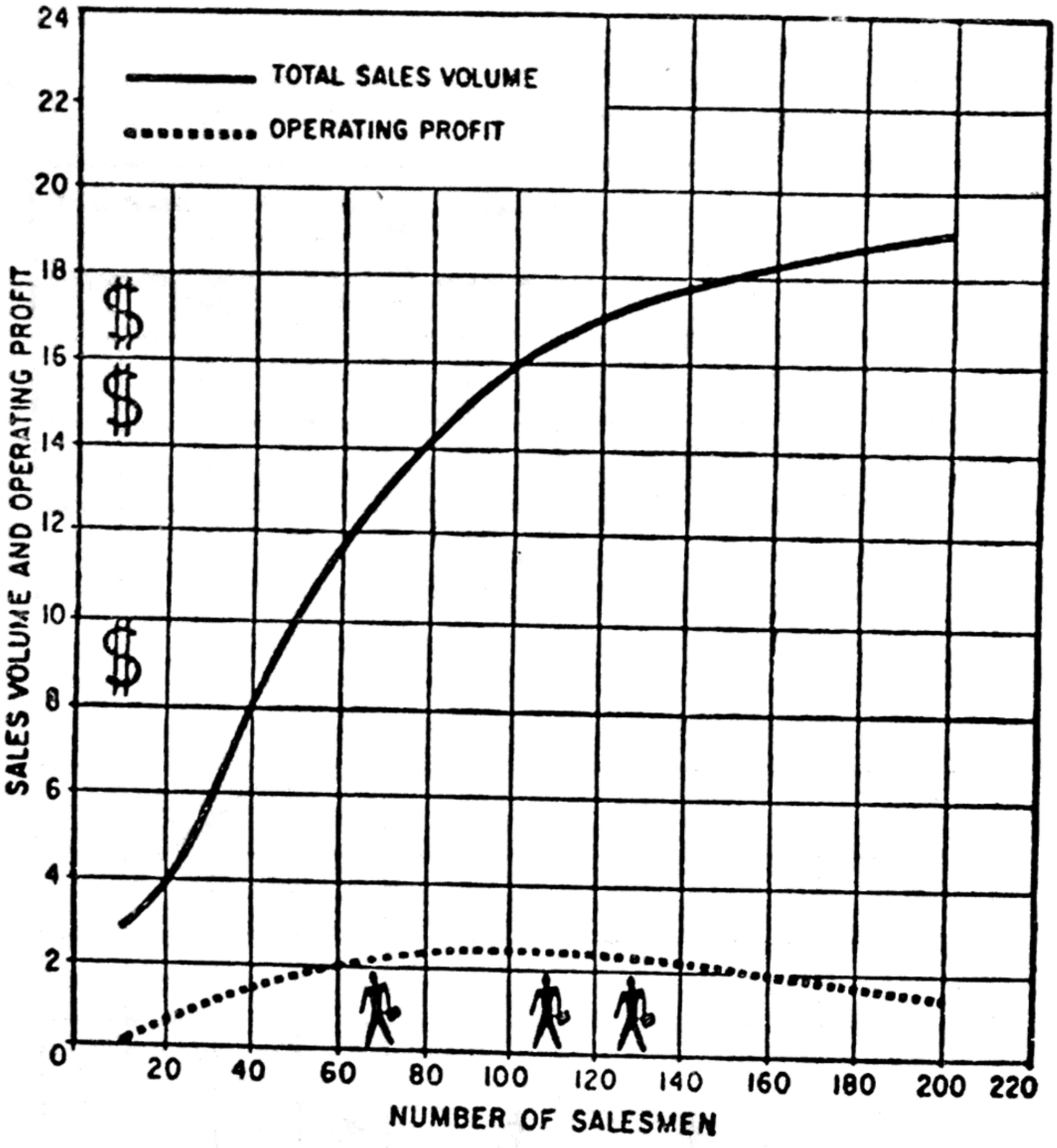
For maximum return on investment or profit on sales volume, the optimum number is shown to be about 65 salesmen.

Now, since the company has 25 salesmen in the field, and with all other factors in the problem remaining constant as in the past, the answer to the

problem of how much to increase the sales force becomes 40 salesmen for return on investment (75 salesmen for total dollar profit).

This example has been drawn from an actual situation, in which case the analysis had the happy result of resolving conclusively rather firmly fixed differences of opinion in management regarding the expansion in sales manpower which should be planned. The differences ranged from a conservative 20% to an optimistic 100%—a situation not too unusual in many managements. In this case it was shown that at least doubling the field force definitely was not a fantastic idea.

EXHIBIT V. RELATIONSHIP BETWEEN NUMBER OF SALESMEN AND TOTAL SALES VOLUME AND TOTAL OPERATING PROFIT IN DOLLARS



Irregularities in percentage curves are due to increased plant investment and corresponding fixed costs as volume reaches certain points.

Lest the reader think that this method does not apply to his business, let me hasten to say that while there are a number of businesses where it would not be applicable, there are also a great many where it has worked and does serve. To illustrate:

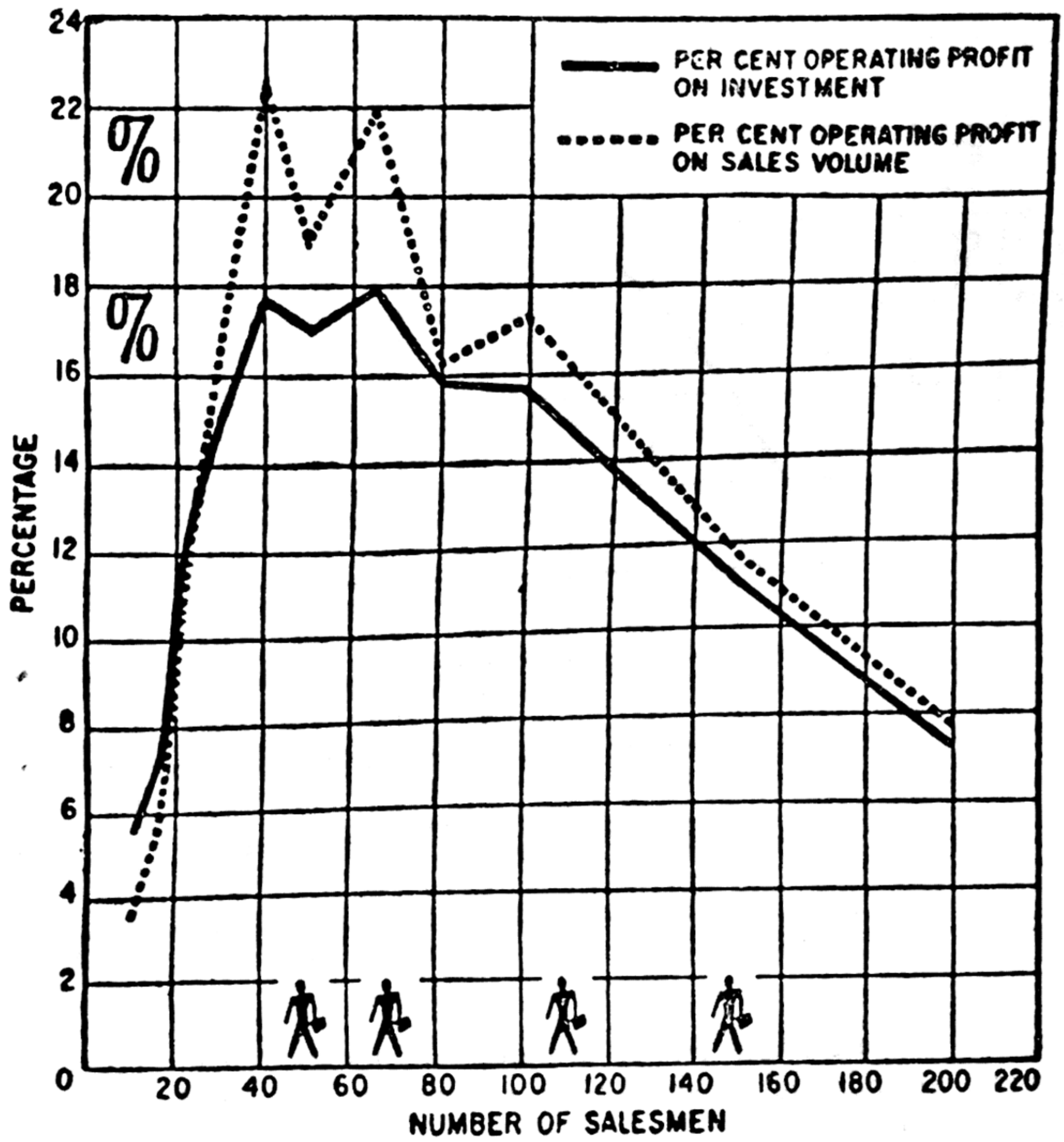
The method has been successfully applied in furniture, mill supply, paper converting, stationery, and other lines where the market is diversified, the potentials can be established with reasonable accuracy, and the number of salesmen is sufficient to provide adequate performance data.

It would be most difficult to apply it to companies manufacturing steam turbines, locomotives, defense products on Government contracts, or in any case where the direct selling activity is characterized by a few relatively large accounts and only a few salesmen.

Balancing Factors

While, in the example given, it is evident that the company would make the most money on investment with 65 salesmen, it does not follow that it

EXHIBIT VI. RELATIONSHIP BETWEEN NUMBER OF SALESMEN AND PERCENTAGE OF OPERATING PROFIT TO SALES VOLUME AND INVESTMENT



should increase its sales force by 40 men immediately. It must be remembered that it was assumed that each of these 65 men will be as productive as each of the present 25 men. This should be true eventually but will certainly not

be true in the first or second, or perhaps even the third or fourth, year of their employment. Therefore, the rate at which the company should move in increasing its sales manpower will depend on how much investment it can afford to make. For example:

If the new salesman can be expected to produce only $50,000 net new volume in the first year, he will provide only $17,500 of profit, and at a cost of $20,000. Thus, the company will have a remaining investment of $2,500 in this man. If he produces $100,000 in the second year, his profit contribution in that year will be $35,000 at a cost of $20,000 or a net profit of $15,000. (This assumes that the addition of this man will not require any new plant investment.)

This question of how fast to reach the desired goal can only be answered by the individual company. In the case of the specific example discussed above, the decision was to add five men per year for the next five years, at which time the situation would be restudied. This decision was based on the time required to hire and train men, as well as the company's financial ability to invest in organization expansion.

CONCLUSION

It must be re-emphasized, in conclusion, that this method of analysis will not be applicable to companies whose selling programs do not resemble the list of basic assumptions on which the method rests. Moreover, in cases where the assumptions do apply, the method must be adapted to each company's individual situation and used in a realistic and practical awareness of the differences in some territories and in some salesmen.

On the other hand, when used intelligently by marketing management, this way of analyzing the problem does provide a means of coming to grips with the persistent question: How many salesmen do you need? More specifically:

It provides a way of looking at the problem that takes into account realistic goals of profitability in terms of sales volume and, even more important, investment.

It relates the objectives of one important part of the marketing mix to the total financial and productive capacity of the firm.

When applied to the individual case, it gives management both a target and a map of an area in business management that has had pitifully few rules by which to navigate.

It is simple and direct enough in approach to appeal to practical management men and as such should help them to apply judgment more soundly.

43 / Basic duties of the Modern Sales Department

EUGENE J. KELLEY AND WILLIAM LAZER

The marketing concept has considerable implications for the management of the field force. The author of this article argues that sales managers must look beyond quotas and calls per customer and integrate their activities with those of other marketing areas. How this integration can best be accomplished is discussed in some detail.

How *should* the marketing concept affect sales management and the field sales force? What *should* the modern sales department contribute to its company's success?

Sales department responsibilities increase under the marketing concept. Sales personnel, at both the managerial and field levels, are asked to broaden their area of interest and "raise their sights."

Under the marketing concept, salesmen are urged to look beyond quotas and calls per customer, and assist the other levels of the company in achieving clearly defined objectives. The marketing concept emphasizes this interaction and inter-relationship of selling and other marketing-related activities.

The sales manager *and field sales force* must now perform important management functions. An increasing number of companies are insisting that their sales managers demonstrate an ability to plan and execute creative field sales strategy and to integrate sales activities with the other elements of the marketing mix.

In short, the marketing concept is resulting in a re-evaluation of the nature and scope of the sales department.

Sales Manager's Duties

Under the marketing concept, the sales manager is concerned with management of the total sales effort. His job consists of more than recruiting, selecting and training salesmen. His major responsibility is one of creating a growth atmosphere and planning and coordinating sales force strategy in order to achieve company objectives.

Sales management operating under the marketing concept recognizes innovation and experimentation as the essential ingredients of sales and

SOURCE : From *Industrial Marketing*, vol. 45, April, 1960, pp. 68, 70, 74, 78.
Eugene J. Kelley : Professor of Marketing and Associate Dean, Graduate School of Business Administration, New York University. William Lazer : Professor of Marketing, Michigan State University.

marketing progress. Under this concept, sales management realizes that change not only produces problems, but also presents marketing opportunities.

The duties of sales managers operating under the marketing concept fall into two broad areas : (1) sales administration, and (2) sales force management.

Sales administration includes the planning and organizing functions, such as determining sales potentials, programing sales effort, coordinating sales inputs, and controlling sales outputs. In addition, the increasingly important functions of sales innovation, sales communication and sales research are sales administration responsibilities.

Sales force management includes the important functions of recruiting, selecting, training, supervising, compensating and motivating the field sales force.

Both sales administration and sales force management are of crucial importance. To date many sales managers have done a better job of recruiting, selecting, and training salesmen than they have of executing their sales administration responsibilities. In the future various pressures of competition, innovation, automation, high fixed costs and changing markets will force increased emphasis on sales administration.

Sales Strategy Emphasis

The modern sales manager is concerned with the strategy inherent in a total approach to overall sales. He still has the bread-and-butter tasks of achieving quotas and directing salesmen in the accomplishment of predetermined objectives; but he also is charged with helping to create market acceptance, establish brand or corporate images, provide research information, develop marketing manpower and establish harmonious dealer relationships.

The vital role of the sales manager in achieving corporate goals is emphasized in the marketing concept approach to sales strategy.

Two Dimensions

Marketing has two dimensions. First, marketing is an increasingly significant element in the total complex of business operation. Management makes a marketing decision after consideration of its effect on the whole business system and the overall objectives.

Second, marketing is an integrated sub-system. The marketing program is comprised of a mix of communications, distribution elements and goods and services "inputs." The essence of an integrated marketing program is that managerial attention is given to coordinating the interacting elements of the marketing mix to achieve pre-determined goals.

It is not possible for a sales manager to understand the true dimensions of marketing change if he thinks only in terms of traditional sales management functions. Thinking of marketing as a cooperative effort—as a "system"—enables him to understand the place of sales in the total marketing effort.

Total Sales Perspective

Actually, sales operate within a framework determined by various forces beyond the control of management. These include competitive, social and political forces. Sales managers will have to be more sensitive to the influence on sales strategy of these forces. Non-business discipline such as psychology and sociology can be useful in supplying information on the external business environment.

A sales manager with a total sales perspective is less likely to see a particular problem as an isolated entity. For example, the problem of sales compensation is appraised in its relation to other components of sales, such as manpower development, selection, training, motivation, supervision and control.

Sales managers able to think in terms of how the field sales force is affected by the flows of information, money, and manpower are needed. These men will be in a better position to execute the policies of marketing-minded corporate managements. Since sales management will be working under this "systems concept" approach understanding it will be a prerequisite for advancement.

Salesmen's Duties

The systems concept should be important to salesmen as well as sales managers. This is particularly true if the salesman's job is seen as that of managing a market area. If, on the other hand, the salesman is looked upon as an order taker, the concept is not applicable.

An increasing number of companies are realizing that the job of the salesman has strategic and innovative dimensions, just as does sales force management. Many salesmen are faced in their own territories with problems of goal determination, planning and long-run market development. Acting in these capacities, the field man is a manager of a market area.

The distinction between a salesman and a manager of a market area is important; it is the difference between viewing salesmen as employees or as members of management. More important, it affects the way the salesman sees his own job. Under the market area management concept, the creative, strategic, and innovative powers of the field sales force are more likely to be tapped and utilized. In short, the market area management concept of field selling can bring about a fundamental change in the character of the salesman's job.

This new conceptual outlook of the sales job is not easy for some managers, or some salesmen, to accept. Viewing salesmen as managers at first blush seems to de-emphasize the importance of present managers. Actually it does not. It raises the sights of managers to higher strategic and planning levels. It may be the means of greater understanding and growth for present managers as well as one way of releasing the inherent creative energy of a force of salesmen.

A man's ability to maintain this subtle but fundamental perspective in the management of his territory or his sales force is a basic criterion of his development potential for higher positions of managerial and administrative responsibility.

Elements of Total Sales

It is important for corporate success that sales personnel view the interaction of marketing elements as a single system. Many successful and sophisticated sales managers have been aware that change in one component of sales action has an impact on the rest of the system. But organized, systematic, and intensive attention to such interaction is relatively new in marketing and selling.

The three components of the overall marketing effort which are particularly relevant to sales management are: input, communications and output.

1. Inputs . . Market planners and field sales planners must recognize that such resources as manpower, money, information, products and service are the "inputs" of the sales action complex. The concept of assembling predetermined inputs to achieve specified sales objectives is a useful notion.

2. Communications . . Communications with the customer and the company are key contributions of salesmen to total sales. The complexities of communications in sales are just beginning to be recognized. Salesmen must overcome the barriers of time, space and lack of knowledge to produce a sustained flow of meaningful information. Sales communication links the customer and his needs with the salesmen's firm.

The sales manager has the important assignment of coordinating this information flow. The sales manager links not only management to the sales force, but also the customer to higher management levels. This is one of the key concepts of the marketing management philosophy.

3. Outputs . . Sales managers can be appraised in terms of a variety of measurable outputs. The most common, of course, are volume and profit standards. These criteria will always be fundamental, but others are being recognized as important. Such contributions as the type and quality of information provided for management planning are becoming more significant bases of evaluation.

Areas of mutual interest for all participants in the sales program can be identified and developed under the "systems" approach to sales. The salesman in the field is more likely to see how his efforts support and supplement the specialist in the home office. The headquarters specialist can be helped to see that it is the salesman who produces the markets which insure corporate survival and growth.

The idea of teamwork is easier to establish when all components of sales are recognized as contributing certain inputs which will be combined with other contributions to produce a pre-determined set of sales outputs.

Scope of Concept

This concept of the sales action complex is also a way of looking at new areas of market opportunity.

In an era when technology is developing new products and new product applications at an accelerating rate, it behoves marketing and sales management to investigate the possibilities of "systems concept" selling.

In fact, many firms can view markets not only in terms of single companies but as complex business "systems." It is possible that a number of new products can be introduced simultaneously on a "systems" basis. The Air Force, for example, finds it necessary not only to buy individual products, but to purchase complete weapons systems including supporting service facilities.

And the same cooperative attitude should also carry through into manufacturer-dealer relations.

Many manufacturers do not recognize the mutual dependency aspects of their relations with suppliers and dealers. Frequently, distributors and manufacturers fail to recognize the community of interest involved in serving customers. How many manufacturers see their dealers as part of an extended sales system? Many say they do, but often unnecessary conflict exists where cooperation should prevail.

Conclusions

The specific benefits of the adoption of the systems approach to sales management are :

1. Coordination of the corporate, marketing and sales efforts.

2. Integration of volume and profit targets established by the company with the operating activities of sales management.

3. Establishment of a circular and continuous relationship between corporate objectives and customer wants, needs and desires.

4. Combination of all sales inputs into an integrated marketing thrust. Through coordinated impact on the market place, effective and efficient sales action will result.

5. The systems concept approach requires sales management to achieve a perspective of marketing and corporate activities extending beyond the normal activities on such functions as production, purchasing and personnel.

6. The approach promotes teamwork. Decision makers at various corporate levels recognize the ramifications of their decisions at all levels. The salesman executing tactics in particular sales situations recognizes the contribution to the field sales team made by the men who devise sales strategy.

VI/THE MARKETING ORGANIZATION

44 / Marketing Orientation and Emerging Patterns of Management and Organization

DAVID G. MOORE

The characteristics of a market-oriented organization differ substantially from one which is production-oriented. In this article the author discusses the characteristics of each type of organization and analyzes the shift which is taking place toward the market-oriented organization.

In this paper, I shall attempt to show the relationship between a marketing orientation in management and certain emerging patterns of organization and administration in industry. Unfortunately, I find myself involved in an exercise in organization theory. I trust, therefore, that you will bear with me if I wander occasionally up devious paths, and, in some instances, oversimplify in order to make particular points.

Much of what I have to say represents a reinterpretation or more extended analysis of studies of organization made at Sears, Roebuck and Company intermittently from 1941 through 1951. These studies were conducted among several hundred operating units in Sears, including not only retail stores but mail order plants and factories as well. The initial aim of these studies was to identify factors influencing employee morale; but, for various reasons, our objectives were expanded over a period of years so that we were ultimately concerned less with employee satisfaction as such and more with the broad functioning of the organization in all of its many socio-economic phases.

CONCEPTS OF SOCIAL ANTHROPOLOGY APPLIED TO ORGANIZATION

Our analysis of organization was based primarily on a conceptual frame of reference provided by social anthropology. It might, therefore, be useful to review briefly certain social anthropological concepts since these will enter into our discussion later on. The point of view of the social anthropologist is drawn, as you know, from his studies of primitive, relatively self-contained societies. It is not surprising, therefore, to find him viewing

SOURCE : From Frank M. Bass (ed.), *Marketing Orientation and Emerging Patterns of Management and Organization* (Chicago : American Marketing Association, 1858), pp. 102-109. David G. Moore : Professor of Management, Michigan State University.

social organization as an interdependent, functionally interrelated system. In traditional, homogeneous societies, there is a manifest organic unity which cannot be denied. The technology merges into the social organization, which in turn is sanctioned by the religious and philosophic system. Each element of the society is bound together with every other element in intimate relationship. No single element can be understood separate from the others. Thus, the social anthropologist tends to concentrate his attention on functional interdependency and to view society as a kind of living system which maintains a certain equilibrium or balance among its many and diverse segments.

Now, while this rather organismic view of society is not as appropriate to the discordant, complex, dynamic confusion which we call modern civilization, as it is to small, homogeneous, primitive social systems, it is extremely useful in analyzing industrial organizations. Here we find functional interdependency more or less imposed by management in its quest for coordination, efficiency, and control. There is an underlying logic to industrial organization growing out of management's conscious efforts to gear the various functions to the overall strategic aims of the enterprise. Thus, we find organizations evolving in systematic ways as management attempts to relate one function to another and cope with new problems as they arise. We find the typical industrial organization held together by an intricate syllogistic pattern in which there are certain major premises or strategic ideas from which a whole series of minor premises are deduced in an orderly and predictable fashion.

The social anthropologist also views society as having a structure consisting of various positions. In primitive, traditional societies, each position requires of the individuals in it particular ways of behaving which can be readily identified.

Again we find this way of looking at social systems useful in analyzing industrial organizations. From the standpoint of structure, a company can be viewed as a collection of occupations representing various technologies and points of view. However, there is more to it than this. An occupation is more than a job; it is to the individual in it a way of life with which he identifies. It provides more than a particular set of skills, it also provides a set of interests, a sense of purpose, a philosophy, a reason for being. Why this is so we won't take time to develop here except to say that our society provides few other possibilities for personal identification. Ours is a work-oriented society and the job that we perform is not only the way we are known to others but the way we know ourselves.

Within the industrial organization, particularly at the level of management but at other levels as well, the various occupational values and points of view are in constant contention. Indeed, the politics of business are intimately bound up with occupational values. Each functional group strives to realize its own interests and thereby comes into collision with other

interests. These conflicts are resolved in various ways usually by the dominance of particular functional groups so that the values and points of view of these groups become the major propositions to which the values of contending groups must be reconciled and subordinated. Thus, the personnel director subordinates his basic humanistic interests to the tangible, concrete cost and efficiency interests of the manufacturing executive.

The dynamics of organization emerge primarily out of the flux and flow of internal politics and power struggles. But external influences have much to do with who gains power and why. Economic conditions, cultural values, and social trends all play their part but the more personal factors of politics are important too.

MANAGERIAL DECENTRALIZATION

During the past ten years, we have witnessed important shifts in the basic patterns of organization and administration in American industry. These shifts have been related primarily to a trend toward managerial decentralization. Various arguments have been offered for this trend. Industry has grown large; it is impossible to administer large, sprawling, geographically dispersed organizations. Decentralization is the latest administrative fad which management has picked up from style-leaders like General Motors, General Electric, and General Wood. Decentralization is an effort to introduce democratic principles into industry. Or it is a result of the "insidious" influence of the purveyors of group dynamics, ego-involvement, and participative techniques.

THE OLD MODEL

Describing these shifts in organization patterns in terms of managerial decentralization, however, is in my opinion too simple an explanation. There is considerably more to it than that. In order to illustrate my point, I shall describe two models of organization. The first represents what, for the moment, I shall designate the old model. The essential characteristics of this model are as follows :

1. Concern with System and Internal Process

This is the major premise on which the old model is built. There is a constant and abiding concern with internal system and process. In a sense this concern appears to be a reflection of the Protestant Ethic which holds, among other things, that, if the internalized character of a man is o.k., then the external world and his adjustment to it will take care of itself. Thus, we find in the "old" model an interest in developing neat, logical, efficient work systems and procedures. The ideal is the machine, an interacting

system in which all of the parts work together in the intricate choreography of a well-oiled, well-designed mechanism.

2. Inexorable Logic of the System

It is assumed that there is one, and only one, best way to get a job done. This "one best way" is to be sought principally at the tangible level of time-motion economy, although other elements may enter in. Building an organization represents a gradual, but consistent unfolding of the fundamental and inexorable logic of the "one-best-system."

3. Primacy of the System

Since the system is held to represent the one best way of getting the job done, then it is imperative that it be followed exactly and that no deviations be permitted. Cooperation and coordination of human effort is built into the system so that, if each individual performs his part of the total task as it is supposed to be performed, then the total effort will be harmonious, efficient, and unified. The system as a means of insuring coordination and cooperation is thus imposed on the work force. Indeed, one of the principal tools of management becomes that of policing the work force at the various levels to insure that the system is being followed.

4. Centralization of Authority

The primacy of the system tends to centralize authority. The system cannot be changed willy-nilly but must be adjusted carefully and in accordance with so-called principles of logic and science. Control and design of the system become management's main tasks. There can be only one system and this must be guaranteed through the highest authority of management.

5. Multiple Layers of Supervision

With the need for close control, there is also the need for many layers of supervision, each level breathing down the necks of the next lower level. There is also a demand for detailed reports and information about each step in the work process. Constant control is exercised. Problems of coordination are typically solved by the addition of more supervision and/or a more intricate system of work. In other words, the answer to the problem of coordination is either more supervision and control or more system.

6. Specialization

The so-called "old" pattern of organization places a heavy emphasis on specialization. Employees at all levels are pegged in either square or round

holes and cannot be shifted about. The emphasis is on functional skill rather than the whole man.

7. The subordination of Human Values to the Machine

The system is a machine involving human and mechanical production units which merge together and are hardly distinguishable. Expressions of purely human sentiments and needs are regarded almost as sinful. Basically the machine is more moral than the human being. Employees and customers alike are subordinated to the great machine. The customer is supposed to take what the machine runs out. His sentimental, aesthetic, and purely social needs are regarded as capricious, willy-nilly, and irrational. If the sales force can't sell what the machine turns out, then there's something wrong with the sales force, not with the product.

8. Concern with the Job within the System rather than Overall Results

Following the system oftentimes becomes more important than overall results to management and employees alike. There is a tendency to become lost in the system and to forget what the system was set up to accomplish. The system becomes an end in itself rather than a means to an end.

There are a number of other characteristics of this older pattern of management and organization which can be described. For example, the heavy emphasis on standardization, the notion of narrow span of control, the utilization of human relations findings primarily in a manipulative sense, the primacy of the line organization and vertical authority, and so on. However, most of these additional characteristics can be deduced from the elements already described.

THE NEW MODEL

Another mode of management and organization has been emerging, as I have indicated, over the past decade. This pattern by no means completely supplants the older model but has somewhat different emphases. It is perhaps best represented by such organizations as Sears and the Kroger Company. The characteristics of this new pattern are as follows :

1. Concern with External Ends

If the older model is concerned with internal processes, the newer model concentrates far more on the problems of external adjustment. The business is viewed basically as a problem of relationship among various claimant groups with varying interests which must be integrated and reintegrated in a dynamic, changing world. Attention is concentrated on this external reality.

2. Subordination of System to Overall Results

The system of work is regarded simply as a means to an end and is not deified as it is in the older pattern. There is rather an experimental attitude toward administrative and organizational practices. There is a willingness to accept diverse and often discordant modes of operation so long as results are achieved. The organization is viewed as an *ad hoc* arrangement which can always be adjusted and changed if need be. There is nothing sacred about it; it is fluid and dynamic.

3. Decentralization

The newer mode of management tends to be more decentralized with broader spans of control and fewer layers of supervision since a police force does not have to be maintained to insure that the system is being followed. More than this, there is the acceptance of the idea of decentralized decision-making. The conviction develops that those closest to the scene of action can make certain kinds of decisions which are more appropriate and valid than higher levels of authority.

4. Overlapping Job Duties and Responsibilities

The newer model of organization is sloppy by older standards. There is frequently a considerable overlapping of job responsibilities and less of a tendency for employees, particularly at executive levels, to stay put in the organization. There is a willingness and acceptance of the idea of stepping across job lines to get the overall task accomplished.

5. Reliance on Men rather than Systems

As General Wood has said, "While systems are important, we must place our main reliance in men." The emphasis is on the whole man, his motivation, character, personality, general knowledge, and intelligence rather than on his special skills and technical know-how. It is assumed that most of the technical knowledge required in a business organization can be readily learned by men of the "right" type. The notion of inter-changeable executives thus becomes a dominant precept.

Again, a number of additional characteristics can be deduced from the foregoing, but the major elements are clear and sufficient for our purposes.

SHIFT FROM PRODUCTION-ORIENTED TO MARKET-ORIENTED MANAGEMENT

It seems fairly obvious that what has been described here is not simply the difference between centralized and decentralized management. It is rather a

difference between a production-oriented and market-oriented management. The dominant values in industry have shifted from those of the manufacturing executive to those of the marketing executive. It is the manufacturing executive or the engineer, who is concerned with system, who models his organization after the machine, who gets excited about in-put, out-put, and feedback, who strives to eliminate human sentiments and values from the work and market place, who strives to develop the one and only system, who places a premium on standardization, everything in its place, housekeeping, etc. It is the sales manager who looks out into the external world and views the changing, shifting needs of the market, the relativity of business objectives, the need for flexibility, the importance of constant adjustment, etc. These shifts in organization patterns would appear to represent a shift in occupational dominance and a re-integration of industry in terms of marketing values.

Obviously, the new, marketing, externally oriented emphasis is not applied uniformly throughout industry. It is not by chance that the purest examples of the newer model are both merchandising organizations. However, bits and pieces of the externally directed theme are found everywhere—for example, the emphasis on general executive skills, the decentralization fad, the tremendous proliferation of staff functions and horizontal authority, the increasing emphasis on style, the shift from the engineer to the industrial designer, etc.

45 / The Role of the Marketing Staff

DONALD R. LONGMAN

This article discusses the work of the marketing staff group and how improvements can be made through the acquisition of professional specialists from such disciplines as psychology, sociology, economics, mathematics, and statistics.

A great deal has been written in recent years about the *marketing concept.* We may expect to see much more; for competition in American industry is increasingly centred in marketing.

This is a substantial change from the situation only a few decades ago. Success then hung on creative skill in evolving substantially new types of products, new production processes, new efficiency systems. Each step forward in these areas produced relatively strong and enduring competitive advantages.

This is much less true today. Mass training of skilled research and development men and of production engineers, increased mobility of manpower, and mass communication at the professional level have all served to spread technological know-how with amazing speed. Competitors employ research men and engineers of parallel training, professional contact, and skill. If one company's team seems relatively inept in the competitive battle, it is still possible to call upon a superior group of consulting engineers for help while a new team is being built.

Under these conditions, competitors quickly identify and match successful innovations made by any company in their field. They may even improve on the original innovator's ideas. It would be vain to suppose that even such corporate giants as Esso, U. S. Steel, or General Motors could gain and hold for long a major competitive advantage in product or manufacturing process. Indeed, it has become common practice to grant licences to competitors on a royalty basis, thus removing technical innovations as a basis of competitive advantage in the market.

Competitive Opportunities

It is this comparative equality in production skills that is forcing a shift in the weight of competition to marketing. Marketing is still a relatively unexplored area. Our customers are so many, so scattered, and so nonhomogeneous in nature and in demands that they are difficult to understand. We are not even sure how we can best serve them economically and efficiently.

SOURCE : From *Journal of Marketing,* national quarterly publication of the American Marketing Association, vol. 26, July, 1962, pp. 29-33. Donald R. Longman : Vice-President and Director of Research, J. Walter Thompson Company, New York.

Changes are still commonplace among big, well-established companies in such basic elements as channels of distribution, discount systems, warehousing arrangements, and service policies. Such changes grow as much out of uncertainty and insecurity in marketing decision as out of changes in the market itself or in marketing institutions. Marketing offers a rich area of opportunity for competitive advantage, richer today than that offered by any other phase of business. But if a company is to seize this opportunity, a lot has to be done.

REQUIREMENTS FOR EFFICIENT MARKETING

1. A Sound Understanding of the Market

First, it is essential to acquire a comprehensive understanding of the market itself. This is a matter of getting the facts, completely and accurately.

One has to know the exact size of the market and its geographical distribution. One must know who make up the market, the numbers and kinds of people. Where do they buy, in what quantities, how often, why ? What products are available for them to choose among ? What are their characteristics, their prices, their patterns of distribution ? What are the products used for, what satisfactions do they provide ? Why is one brand chosen over another; and why do people change in their choices ?

There is so much that needs to be known, and known well. How else can we think constructively of the marketing process until we have a solid grasp of the facts, a sure sense of perspective ?

The truth is that little effort to think constructively about marketing was made during the decades when competitive success was established by production efforts. Systematic collection and analysis of marketing facts have been undertaken, even by the largest and most progressive companies, only during the last fifteen or twenty years. Indeed, the evolution of marketing research may serve as an index of the shift in competitive pressure toward marketing.

We possess today the tools and techniques for acquiring quickly and efficiently almost all the basic data necessary to provide executives with a sound perspective in marketing. Yet marketing research is still inadequately utilized; there is ample room even now for a company to gain major marketing advantages over competitors simply by superior knowledge of the facts of the business. The 10,000 professional marketing research men today are probably not a third of the number we may expect when marketing has been developed to a peak of efficiency comparable to production.

2. Innovation

The second requisite to superior marketing lies in innovation. There is no progress in acceptance of routine, in copying competitive practices, in turgid operation.

Indeed, in the fluid environment of marketing, with changes in policies, practices, and procedures borne no more of creative thought than of uncertainty, the well-thought-out, tested innovations may prove extremely rewarding. We must be prepared to consider alterations, often radical changes, in methods and policies. We must become creative,cultivating a flexibility of mind that seeks and considers new approaches. We must be prepared to re-examine the basic premises upon which our policies rest. We must begin to ask the fundamental questions and to fix them in our mind, looking, looking always for new answers.

There exists a unit expected to devise and explore new ideas in the production area. It is supposed to suggest innovations, to challenge current practices. It is staffed with men of imagination, men of specialized education, men whose minds are constantly stirred and challenged by contacts with basic research scientists in our universities, foundations, and government units. They are in continuous contact with other professionals throughout the country, often in other countries, and are constantly stimulated by the ideas and exploratory efforts they encounter in a wide variety of industries. They are Research and Development men.

There is no comparable unit in marketing, even in companies whose marketing costs far exceed manufacturing costs. The nearest marketing parallel is to be found in advertising agencies. These owe their independent existence to the very fact that creative imagination and innovation are obviously essential to advertising; and even the largest advertisers do not provide in their marketing organizations a climate conducive to high quality creative work.

But the advertising agency is concerned fundamentally with only one of many marketing activities. It is not well equipped to serve as the creative arm for the entire marketing function. It is not paid enough to do the job; nor is the company advertising manager who works with the agency so positioned in his own company that he could spark the creative effort for the entire Marketing Department.

This means that a new and different unit is needed to function within the company itself. It must be staffed with men of creative minds, trained in seeing and exploring possibilities not clear to others. They need to be observers of marketing in all of industry, stirred and challenged by professional association with creative men in universities, consulting firms, everywhere that pioneering thought goes on. They must imagine, synthesize ideas, experiment systematically.

They may be engineers exploring the application of operations research to warehousing. They may be psychologists studying the foundations of salesmen's or dealers' morale and motivation. They may be marketing researchers probing ways to break old consumer buying habits and build new ones. They may be systematically testing consumer responses to a range of product styles, flavors, or scents. They must be the Marketing R and D.

3. Scientific Approach to Decision Making

The third major requisite to superior marketing lies in hard-headed, scientific decision making. This requires a solid grasp of the facts of a business through research and through experience. More important, it requires imagination, perceptiveness, thoroughness, objectivity, analytical skill, and emotional stability. Few people acquire all these traits in the normal course of their lives; our marketing executives today introduce large portions of emotion, hunch, habit, and haste in their judgments. But needed qualities can be developed as a matter of explicit training. In increasing measure they are being developed in the best of our Schools of Business.

Decision making is extraordinarily complex in the marketing field. When decision is required between alternative policies or procedures, it is necessary first to grasp fully and completely the exact nature of the alternatives and all their implications.

It may seem simple, for example, to select a brand name for a new product; but this is only true for one who does not know both the values and dangers in a name. A name can convey a sense of quality, lend itself to easy recall, facilitate effective advertising, express values to be received in use; in sum, it can secure a privileged competitive position to its owner. Or it can be easily ridiculed or played upon, fail of copyright, be subject to confusion with other names, and so on. In truth, there are scores of facts to consider in selecting names, a wide variety of criteria to employ in judgment. There is a lot at stake.

If this is true of names, imagine how much more true this is of issues concerning pricing, packaging, discount systems, employment and motivation of salesmen, advertising themes, and so on and on. Each issue must be studied objectively, its implications uncovered. All the facts relevant to decision must be marshalled. The possible effects of alternative courses must be weighed. Experimentation or testing may be considered. This is the slow, arduous, but hard-headed and scientific approach to decision making. This is the way to confident action, desirable any time but mandatory when significantly new, creative innovations are put into effect.

Those of us privileged to have close contact with marketing management over the past twenty years have seen a slow but steady progress toward this kind of decision making. Arbitrary, hasty, "seat-of-the-pants" decisions based on hunch, enthusiasm and personal preferment for the individual advocates of one course are becoming less common. Yet there remains much room for improvement in decision making today.

4. Efficient Administration

The fourth requisite to marketing success lies in efficient administration—the daily execution of policy and practice, the employment of facilities and men, the operating job.

This is the field of marketing performance, so obviously necessary that it

could not be overlooked. Here the need is for inspiring leadership of men, operating drive, astute supervision of performance in every detail, the building and maintenance of a morale that instills a motivation in the doers of the marketing job.

Broadly speaking, marketing can claim credit for superior performance in this area; it has been given thought and attention at a senior business management level. By the same token, it is the marketing requisite least rich in opportunities for improvement and, therefore, least likely to yield a competitive advantage in marketing.

The very obviousness of the need for sound administration has tended to obscure the need for the other three basic requisites in marketing—a full understanding of the market itself; the development of creative, new ideas or innovations; the making of decisions on a hard-headed, scientific basis.

Administration is a big job, involving the employment and supervision of hundreds, even thousands, of people, as well as the purchase, maintenance, and operation of equipment and facilities of countless kinds. And the huge expenditures for marketing lie under the administrator's control. Small wonder, then, that marketing administration was equated with all of marketing, until increasing competitive equality in other areas forced people to study more seriously the nature of the marketing function.

Sound administration is a fundamental component of marketing, but is far from all of it. It is the operation of a gigantic "machine." This marketing machine works on the materials provided it, and under the policies and procedures set for it. The machine operator, skilled as he may be in his function, is rarely qualified alone to conceive, test, and decide upon new ideas, on new policies and procedures. He is not an innovator. He is not a researcher. He is not a trained and objective decision maker. These are different problems, requiring skills and training different from his, perhaps even a different temperament.

A New Organization of the Marketing Function

The slowly growing recognition that marketing management requires much more than administrative skill has led our largest and most progressive companies to bring a new kind of man to the Marketing Vice-Presidency. He tends to be more thoughtful, sometimes skilled more in handling ideas than in handling men. He is more objective, analytical, less emotionally involved in his assignment. He has begun demanding research—searching for ideas, thinking of both "strategy and tactics." The basic administrative management of marketing, the line operating responsibility, is being delegated to a subordinate General Sales Manager or Director of Field Sales Activities.

Concurrently, staff departments in marketing have grown in number and influence. New units have appeared. We now have Product Managers, Marketing Operations Managers, Research Managers, along with the older Advertis-

ing and Credit Managers. Even Marketing Accounting and Marketing Personnel Managers may serve as members of the Marketing Staff.

Functions and Operation of the Marketing Staff

The functions of these several staff groups have not been clearly crystallized as yet. Broadly speaking, most of them are supposed to study all phases of the company's marketing operations in the area of their specialization; keep the Marketing Vice-President closely posted on trends and developments in their areas; check performance efficiency; and recommend policy or procedure changes when they seem needed.

Thus, the Product Manager for a particular product keeps closely informed on all competitive conditions affecting his product, observes regional and district sales performance on the product, notes obstacles to sales success, and proposes means of overcoming them. The Operations Manager concerns himself with the supply, maintenance, and efficient performance of all physical facilities, stores, warehouses, delivery systems, etc. As a superior specialist in this area, he advises the Marketing Vice-President on ways to improve efficiency and service, and to cut operating costs.

The same kind of work is done by the Credit Manager, the Marketing Accounting and Personnel Managers, and the Advertising and Sales Promotion Managers. Collectively, the staff managers cover all the different functions in marketing.

When these departments were set up, it was natural, of course, to staff them with young men who had proved themselves successful in the company's marketing activities. So, they were drawn from the ranks of the *administrators.* Generally this is still true, for this is the logical source of men and these jobs are still not clearly enough defined to suggest the need to look elsewhere.

But this will change, indeed is in the process of change. It is not enough for the Product Manager or Operations Manager to serve as an observer of operations, to be an administrative second-guesser in a particular area of specialty. This would be a most routine approach to a job, unworthy of senior personnel.

Rather, the Staff Manager and his assistants must use their advantageous positions to acquire all relevant information affecting their functions. They must assimilate, analyze and evaluate these data constructively. They must add to this the stimulus of wide-ranging contact and observation of their industry and of many others. They must cultivate a flexibility of mind inviting new ideas. They must become creative—considering all manner of policies, procedures, activities which can add to marketing opportunities or improve service and increase efficiency. They must develop and explore their creative ideas, testing mentally or in the market place those which seem most promising. In handling such tasks, they develop habits of thoroughness and objectivity, making scores of decisions on the basis of a scientific approach.

They are truly staff experts—observing, creating, testing, recommending ways of doing their part of the marketing job better than it has been done before.

This is the basic job of the Product Manager. Concentrating all energies on the one product or product line for which he bears responsibility, it is his job to conceive new and better ways to market it. His work may lead to recommended product modifications, package changes, price or distribution revisions. He may study advertising, promotion, guarantees, and service, and come up with few recommendations. He is the innovator, the preliminary decision maker, working from intimate knowledge of all relevant facts.

The same is true of the Marketing Operations Manager. He is studying the nature and design of his retail outlets, the number and location of warehouses, the packing and order-filling system, the volume and distribution of inventories. He has scores of subjects to study, each offering opportunities for significant improvement. If he can only conceive a better type of retailing equipment for his stores, a better system of truck scheduling, a finer system of production-distribution coordination, he can strengthen his company's competitive position and add to its profits, just as can the Research and Development Manager or the Production Manager.

What is true of Product and Operations Managers is just as true of the Advertising, Sales Promotion, and Public Relations Managers. It is just as true of the Marketing Personnel Manager. By use of cost analysis, the Marketing Accounting Manager can make significant contributions to policy on areas of operation, channels of distribution, a quantity discount system, and a hundred other things.

We need an explicit, articulate understanding that this is the job of the Staff Manager. We need to recognize formally, and affirmatively that innovation and scientific decision making is the particular province of these men ... that collectively they represent a kind of R and D for Marketing.

The Staff as Professionals

When this is done, we will have a very different set of specifications for men to fill these jobs.

They must possess keenly analytical but highly flexible minds. They must be imaginative, creative. They must be objective, thorough, trained in the scientific approach to problems. They must know the rudiments of collection, assimilation, and evaluation of data. They must be well informed, with wide contacts in industry and education. In a word, they must be *professionals.*

Broadly speaking, this is the kind of background and training we find most often today in marketing-research men and consultants. This implies that in time most senior staff positions in marketing will be research positions. After all, research, viewed broadly, is nothing more than the systematic, thorough, objective examination of a problem; the orderly acquisition of all

relevant data bearing upon it; and the meaningful, creative evaluation of the data in terms of conclusions and recommendations. This is, indeed, what is expected of Marketing Staff Managers.

With further passage of time, however, the specific functions of marketing research will be narrowed. Today anyone engaged in simple fact gathering may be called a research man. Ten years from now, however, the term probably will be reserved largely for those who by long and specialized training have mastered the more complex and intricate techniques of research. They will be the specialists in sampling, in operations research, in projective techniques. The Marketing Research Department will not be large, and it will carry out its work on a service basis for all the Marketing Staff Managers.

The changes ahead are already very much in the process of being made. Product Managers, Advertising Managers, staff men of every kind are addressing themselves ever more seriously to their jobs, going farther and farther beyond routine, specialized, administrative observation and suggestion. They are getting into their jobs more deeply than ever, and so they feel impelled to creative and decision-making roles. And more and more such jobs are going to research men and to men whose training and temperament commend them for a research approach to business. The trend will quicken as there is more widespread specific recognition and articulation of the ultimate character of staff work.

46 / *Why Modern Marketing Needs the Product Manager*

The product manager type of organization appears to be growing in importance. This article presents three case histories and through these shows how a product manager operates to improve the efficiency of the marketing organization.

For every company with more than one product line, the intensely competitive conditions of marketing today pose a special organizational problem. The question is how to put the greatest marketing effort behind each product when there are so many products and markets. A growing number of companies are finding their answer in two words: product managers.

A harried management consultant reports: "A lot of our executive recruiting right now involves finding men qualified to work as product managers." He adds: "At the moment, we have more jobs than candidates."

Manager Ed Reynolds of American Management Association's marketing division reports that recently his office has been getting more requests for information on product management than on any other issue.

It seems clear that the product manager is the man of the hour in marketing organization. Less clear is his role. He is many things in different ways. But for all companies, there is one common denominator: The product manager is their means of solving the complexities of modern marketing through a new form of decentralization.

The concept of product management is not new. Probably it originated (as have so many other effective marketing techniques) in the retail trade; in this case in the departmental buyer system used in department stores. Since no one person can reasonably be expected to determine all of the thousands of products a store must stock, and the merchandising programs for each, the store divides this basic responsibility among several departmental specialists.

Similarly, the product manager in a producing company is, by virtue of a reverse twist, assigned (within variable limits) the responsibility for selecting the products in his line and planning the marketing of them. He is, to a variable degree in different companies, a deputy chief marketing executive. He supervises for one of several product lines those functions supervised by the chief marketing man for all of the company's products.

SOURCE : From *Printers' Ink*, vol. 273, October, 14, 1960, pp. 25-30. Copyright 1960 by Printers' Ink Publishing Corporation.

I. BREEDING GROUNDS

Every product manager performs many duties in connection with his products, but his efforts usually center mainly in one functional area, the orientation generally being determined by industry category. There seem to be three basic types of product-management organization:

An advertising (and sales promotion) orientation is most common among consumer companies, like Procter & Gamble, where advertising is such a large and critical part of the marketing program.

In the industrial field, where customer relations and service are paramount requirements, sales (and technical service) get the PM's major attention. At du Pont, for example, a PM may report upward through four or five levels of sales executives.

The third, and most comprehensive kind of product manager—as well as the most rare—is the kind who is more correctly called a general manager. He is found in the largest companies, like General Electric, which has more than 100 product departments or "profit centers." Each is headed by a general manager responsible for everything about his products from manufacturing to marketing—with supervision from above.

However he functions, the product manager is old for some companies, but new for most. Except for a handful of larger companies, those that now use PMs have done so for five years or less. Among the exceptions are P&G and Johnson & Johnson, which have had PMs for 25 years or more. Neil McElroy, board chairman at P&G, started as a product manager with the company. PMs of other companies have become top executives, too.

This is one of the many benefits companies have found in product manager organization. The position is, among other things, an excellent training ground for promising young executive candidates, for it generally involves them in every area of company operation—finance, production and marketing. It has already served as a launching pad for marketing-minded young men interested in rising to the top of their company, and it seems certain to produce many more company leaders.

But these are future benefits—for the company and for the executive. The major reasons for the growing interest in product managers are more urgent. Product management offers:

Concentrated fire power in each market segment, through centralized planning responsibility. Obviously (assuming competence) four men, each working on one product line, can do a more complete job than one man spreading his talents over four product lines.

Greater efficiency through greater liaison and coordination. It is not only the growing number of product lines that complicates the marketing process, but also the growing number of functions (marketing research, product planning, etc.) required for each. What might be a tangled web of activities around a product is often synchronized by the presence of a product manager.

Increased profitability, through savings from improved efficiency and a stronger position in the market. General Aniline & Film estimates that its product manager system has meant millions of dollars to the company in the three years since the system was installed.

II. COMMON TRAITS

In a study of companies with product managers, *Printers' Ink* found wide variations. Probably lack of experience best explains the difference in individual company operations revealed by the study. But differences there are. For example, the same job carries different titles, duties, responsibilities, authority—and status—in different companies. But there are also a number of common denominators.

For one thing, product management seems to work as well for industrial as for consumer companies. Just as much if not more enthusiasm for the system exists among industrial firms. For another, there is an apparent accent on youth. Most PMs seem to be business-school graduates who have had a brief baptism by fire in line marketing operations—perhaps as field salesmen—before moving into their positions. And for a third, few companies sharply delineate the PM's area of operations, as between line and staff function; most give him heavy responsibility, though not with commensurate authority. And almost all are still grappling with the problem of how to center profit responsibility on the PM without giving him control of price-cost-profit factors (though almost every company gives him some voice on these matters).

Unquestionably, the most common characteristic of companies working with PMs is *change.* A company makes changes as it learns more about how best to use the system, as pressures from changing markets force new needs, as the experience of other companies suggests new forms. And there is every indication that for all these same reasons, additional change may be expected as experience broadens. To illustrate the range of experience and change. *Printers' Ink* selected three companies that represent the three basic kinds of product management operation.

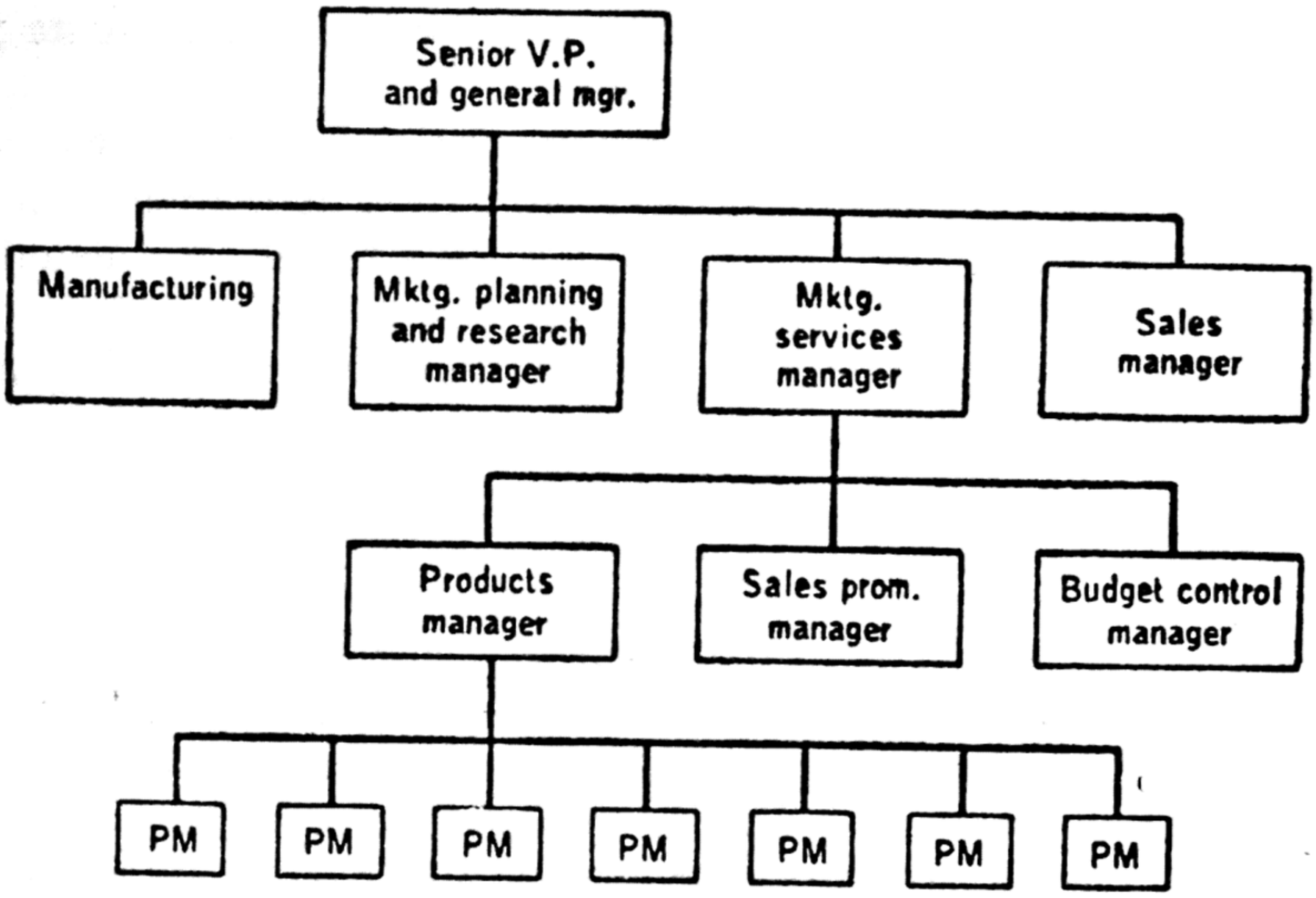
Kimberly-Clark's consumer division (Kleenex, Delsey, Kotex, etc.), which has used PMs since June 1956, reflects the advertising orientation of many consumer PMs. Merck's chemical division, which has used PMs for about 14 years, typifies the company whose accent is on sales and technical service. Raytheon's government equipment and systems division, which has used PMs since the mid-'50s, takes the general manager approach.

III. ORIENTATIONS—1

Kimberly-Clark has seven brand managers in its consumer division, six handling one brand each and the seventh two. Their work is supervised by

Products Manager Harry J. Sheerin, who reports to the Marketing Services Manager, Eugene Olson, along with Sales Promotion Manager James Arnold and Budget Control Manager August Hillem.

Accent on advertising :
KIMBERLY-CLARK CORP.,
Consumer division



Special boxes for advertising agency account executives and supervisors would make this chart complete. For, while advertising as a function is not shown, it is nevertheless the single most important responsibility of the seven brand managers. They are essentially advertising managers for their brands, and spend about 75 per cent of their time on advertising and promotion problems. But they also have basic responsibility for planning and coordinating all marketing activities connected with their products. They report through a products manager, and work closely with all related functions to develop complete marketing plans for their brands. There is one sales force serving all brands.

There are two other marketing units operating as independent departments within the division and reporting to the corporate senior vice-president (L. E. Phenner) who heads the division. A divisional sales force handles all products in the field. A marketing planning and research department includes among its divisional functions the testing of new products.

Each brand manager is responsible for drawing up complete marketing programs for his brand. But, says a company spokesman, "The brand manager spends 75 per cent of his time on advertising and promotion campaigns—creating, budgeting and getting approval."

There is no divisional advertising department. The brand manager serves as ad manager for his products, working with an account executive of one

of the company's two ad agencies, Foote, Cone & Belding, and Doherty, Clifford, Steers & Shenfield.

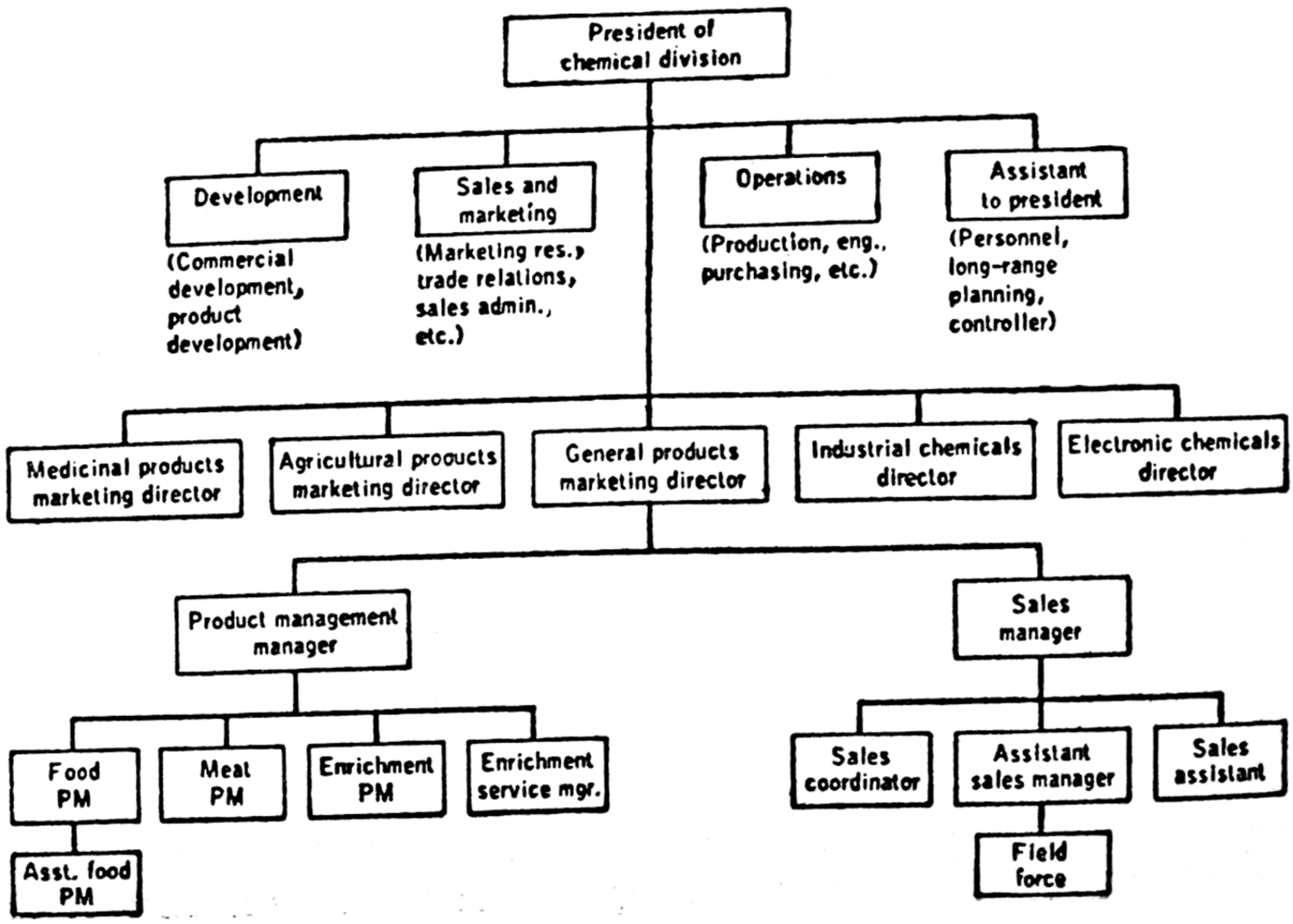
In addition, the brand manager is responsible for recommending marketing objectives for his brand, planning marketing strategy, drawing proposed budgets, initiating new projects and programs and coordinating the work of all functional units concerned with the production, financing and marketing of the product. He must also maintain communication with management and with the departments working with him, and constantly evaluate performance and recommend changes as necessary.

The brand manager has no staff of his own, but may draw on the resources of advertising agencies, the division's sales promotion department, the marketing research department, the budget control department, the manufacturing department and the sales department. The brand manager has a definite responsibility for the profitability of his line, but no price-making authority and no profit accountability.

IV. ORIENTATIONS—2

The chemical division of Merck & Co., Inc., one of four divisions in the company, reflects the importance of sales in industrial marketing generally and in the chemical industry specifically. Each of the five product departments making up the chemical division has its own sales force.

Typically, the general products department, which sells a variety of additives to food packers and processors, is headed by a marketing director—



R. W. Hayes—who is also the sales manager. This department—like the other four in the chemical division—is organized in two units, sales and product management. Hayes reports directly to division President, W. H. McLean.

Under R. G. Valerio, who holds the odd-sounding title of manager of product management, are three product managers handling:

Meat products (meat curing, fermenting and flavor-enhancing products for meat packers and spice houses who serve packers)

Enrichment products (enrichment mixtures, bulk vitamins, amino acids, etc., sold to cereal, grain and baking industries)

Food products (citric acids, bulk vitamins, amino acids, etc., sold to packers, canners and the frozen food industry)

In addition, there are a technical service manager and one assistant product manager.

Each product manager is a staff member whose primary function is to "plan for the growth and profitability of his markets."

The emphasis on markets, rather than products, is important. It indicates a growing trend among industrial companies toward serving the needs of their markets rather than simply selling products on hand to various customers. This is, of course, the essence of true marketing.

In several cases, the same products are handled by different product managers. It is their job to know their markets thoroughly and to exploit the possible uses for the products of the company.

This policy represents a major change in the orientation three years ago from the product orientation that had existed. Previously, the vitamin products manager cared only about selling vitamins. Today, the food products manager is interested in developing a broad line of products for use in his markets.

In that sense, the Merck type of product manager might perhaps most accurately be called a product marketing manager. But, true as this may be, his major efforts nevertheless are concentrated upon making the most effective showing in the field, where salesmen must work closely with customers to demonstrate the values of the products they are selling.

The product manager is his own ad manager, working with either of the two agencies—Charles W. Hoyt and C. J. LaRoche—that serve the chemical division. Within the division, he may call on a variety of services from divisional departments, including product development and sales and marketing, the latter a sizable unit providing marketing research and a variety of sales support, including sales service, sales administration and sales control.

Further emphasizing the primary role of sales in its marketing efforts is the fact that the general products department, under the assistant sales manager, has two staff planning aides. The entire effort is organized to strengthen the position of the man who has to sell the customer.

Merck's chemical division has undergone many changes in its product management operation, but none so far-reaching as the switch in orientation from products to markets. Further changes are expected—one probably in the

name of the general products department to food products department (since that's what the department sells).

V. ORIENTATIONS—3

Raytheon uses the GE product-department general manager concept, but with differences. For one thing, the Raytheon departments are generally smaller than GE's. And for another, Raytheon calls them operations rather than departments, and calls its product managers operations managers. However, as with GE department general managers, Raytheon operations managers have wide responsibility and authority—subject to approval of higher management echelons in the company.

Taking it from the top, Raytheon is headed by a management team labeled "executive offices," including board chairman Charles F. Adams, president Richard E. Krafve, and senior vice-president Percy L. Spencer. The company has 12 operating divisions, most of which are organized into two groups, Government and commercial, headed by group vice-presidents, with the other divisions reporting directly to the top. Operations are organized within divisions headed by general managers.

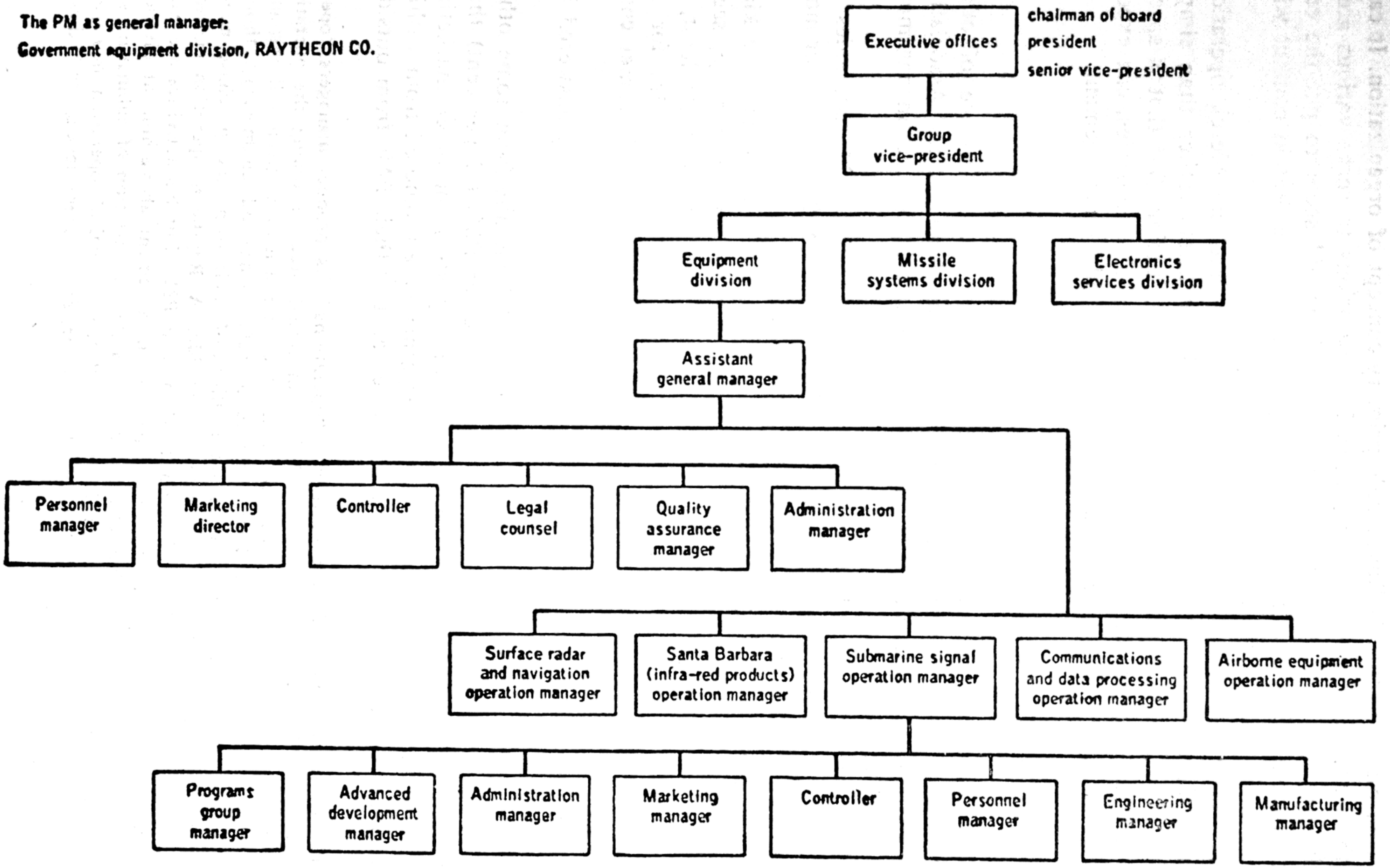
Because of its rapid past growth and continuing expansions, Raytheon has experienced somewhat more organizational change than many other companies. Management structure may vary within the same group and even within the same division—as modification of the basic forms are made to meet specific conditions.

The government equipment and systems group headed by vice-president D. D. Coffin has three divisions: equipment, missile systems, and electronic services. The equipment division has five operations managers reporting to general manager Glenn Lord. In addition, reporting through assistant general manager Fritz Gross are six divisional staff functions, including a marketing director who provides staff aid to operations managers in such areas as advertising, sales promotion and product planning.

Some operation managers have sizable staffs of their own. For example, within the equipment division, which has five operations, W. Rogers Hamel, manager of the submarine signal operation, has eight functions reporting to him, including manufacturing, engineering and marketing. They are assisted by the division staff, but in theory at least, the operation manager's decisions control —albeit subject to approval by the division manager, the group vice-president and, at the top, the "executive offices."

Originally the PM organization at Raytheon was set up along functional lines. Central manufacturing and engineering organizations supplied production for all operations. The operation manager was purely a marketing—or more precisely, a sales—function. A major change was made about 18 months ago when the current set-up was established to tie engineering and product design more intimately to marketing requirements.

The PM as general manager:
Government equipment division, RAYTHEON CO.



"Area management" is Raytheon's primary concept of organization. It calls for the building of complete manufacturing operations to serve various areas of the world with Raytheon products. But this would seem to put the currently decentralized "operation" type of product management in conflict with the basic organizational concept.[1]

The result could be a move toward something like the Merck operation, with product managers responsible for serving markets rather than simply selling products, and without responsibility for production. But that is speculative. What remains certain is that Raytheon, like all companies, can expect further change in its structure and methods of product management.

VI. ORIGINS AND DUTIES

How do these three cases measure up against the experience of other companies? Some comparisons with an American Management Association survey, as a preliminary to organizing its new course in product management, are possible.

The survey was based on questionnaires answered by 20 companies or divisions—ten consumer and ten industrial—all in the $100-million-or-more class, and altogether employing 77 product managers.

Contrary to the widely held belief that product management is some kind of consumer company gimmick, industrial companies, on the average, seem to have had more experience with it than consumer companies. At least, of the companies in the survey, industrials used product managers for an average of 7.5 years, against an average of only 6.3 years for consumer companies.

Several pertinent questions are illuminated if not definitively answered by the survey.

Where does the product manager come from? Generally from some other marketing job within the company. More consumer PMs (87 per cent) than industrial PMs (52 per cent) moved into their posts from other marketing positions; but more industrial PMs (78 per cent) were promoted from within, consumer companies having recruited 43 per cent of their PMs from outside.

[1] Raytheon calls its product departments "operations,' its product managers "operation managers." Although there are variations in actual practice among the operation managers in Raytheon's 12 operating divisions, they are generally given full responsibility for their product lines. That includes manufacturing and engineering, though some operations may have no production facilities of their own, and purchase manufacturing elsewhere within the company or outside. A Raytheon operation manager may have more responsibility and authority than most PMs. But his activities are carefully supervised and controlled by three layers of management above him, at division, group, and corporate levels. This chart, focused on the organization of submarine signal operation manager W. Rogers Hamel, illustrates a typical operation manager's reporting relationships upward through three other management levels, and downward through his own staff.

(Incidentally, 38 per cent of the industrial PMs came from engineering or research and development jobs—fields that produced none of the consumer PMs.)

What are his responsibilities? They vary widely between consumer and industrial companies. Companies were asked to list primary responsibilities of their PMs. All of the industrials listed first, "Recommends additions and deletions to the line"—a reflection of the importance of market needs over product selling. Nine out of ten added sales forecasting and sales promotion. And eight out of ten noted that their PMs determine product specifications, participate in sales planning. Further reflecting industrial emphasis on sales is the fact that while all 20 companies (industrial and consumer) noted that their PMs made periodic fact-finding field trips, eight out of the ten industrial PMs "assist in selling key accounts"—a function listed for none of the consumer PMs. And all industrial PMs are required to counsel regional or district sales managers, as against only 80 per cent of consumer PMs.

All consumer companies group advertising, sales promotion and marketing research at the top. Eight out of ten added "expense budgeting."

How does he operate? Some of the confusions about the PM system can be laid to lack of sufficient experience with it. For example, 60 per cent of the consumer companies choose to designate their PMs as line executives, when in fact some of them exercise little line control and actually perform planning and advisory duties usually designated as staff. Probably the most realistic approach to the question of line or staff designation is offered by those two out of ten consumer companies that reported they make no distinction for they most clearly suggest the fluidity of the situation.

Again, 60 per cent of consumer and 50 per cent of the industrial companies reported that they give their PMs "price making authority." But, almost all added some qualification that renders that authority something more like the authority to make serious price *recommendations.*

VII. ANSWERABLE TO . . . ?

There is greater clarity about and uniformity of policy on other operational points. All companies require their PMs to prepare sales forecasts and price-cost-profit budgets. Similarly, all give their PMs periodic operating statements for their product lines. On the matter of ad and promotion budgets, 80 per cent of the consumer companies and 55 per cent of the industrials give PMs the authority to determine or approve both, and another 30 per cent of the industrials give this authority for one or the other.

Incidentally, as for the number of products for which a PM is responsible, the range is from a consumer average of 1.4 to an industrial average of 10.2—the larger figure, however, including a greater variety of sizes and designs of industrial products. (One company that noted its PMs handle an average of 203 products might have more accurately said they each handle that many items instead.)

What are his reporting arrangements? Generally, the product manager reports to a higher marketing executive, though this is more common in consumer companies, wherein he reports to either a marketing director (40 per cent), chief product manager (30 per cent), merchandising manager 20 per cent), or ad manager (10 per cent). Among industrials, eight out of ten report to general managers of their divisions.

Beyond that level, the PM is closer to general management in industrial than in consumer companies. Sixty per cent of the men to whom the product managers report in industrial companies themselves report to either the president, executive vice-president or division manager. In consumer companies only 30 per cent report to general management. The rest of the PM supervisors in both categories report to another marketing executive, either the marketing vice-president, director of marketing or general sales manager.

VIII. WHAT'S AHEAD?

Whatever validity these findings have, they are true only for today. Even now, the companies studied by *Printers' Ink* and AMA are very likely planning or making changes in their product management organization. And every change is directed toward improving the system. For with all the confusions and experimentation, there seems no doubt that the product manager system is here to stay.

Here and there the validity of the PM operation is questioned. For example, president Grant Horsey of Salada-Shirriff-Horsey, which doesn't have product managers, wonders whether the young, relatively inexperienced men frequently appointed as product managers can reasonably be expected to carry the heavy load of responsibilities they are given. But such questions seem to be answered by the experience of those companies that rely on product managers. These companies recognize the problems, and work constantly to balance the realities. And, apparently, they seem certain that they are doing the right things. *Printers' Ink* found no company now using product managers that is willing to abandon a system that many consider the best means yet devised to put their best foot forward in every one of their markets.

47 / Communication in a Marketing System

Marketing may be conceived of as essentially embracing those activities which are concerned with the understanding and management of communications. While communication is not in itself the goal of management, it is its most fundamental and universal tool. Advertising, personal selling, marketing research, public relations, and employee relations are aspects of communication. Marketing executives must become concerned with the flow of information as well as with the flow of goods.

Communication as an aspect of human enterprise has recently been the subject of an immense amount of discussion and speculation. A minor sensation was created by *Fortune* magazine in an article on business communication called "Is Anybody Listening ?" A series of articles has followed couched in the same folksy, let's-talk-it-over tone. At the other extreme are the differential equations of Norbert Wiener in his now famous treatise on "cybernetics," the science of control and communication. Certainly there is room for both the business journalist and the mathematical philosopher in a discussion of such profound importance.

Business employs highly developed techniques in the various phases of its communication processes. These techniques include advertising, personal selling, marketing research, public relations, and employee relations. Even more fundamentally the ability to put ideas and arguments into words is a prime characteristic of the successful executive. While communication is not in itself the end and object of management, it is its most fundamental and universal tool.

The subject of communication deserves the attention it has been getting but there are also some dangers of over-emphasis or distortion. By concentrating on business as a system of communication the analyst may sometimes be led to behave as if communication were the primary purpose for which business enterprise exists. Sometimes the volume of letters, memoranda, reports and conferences is so vast as to raise a question as to whether business itself may not have fallen into this error.

A somewhat similar situation arose as a result of the work of Elton Mayo, Chester Barnard and others dealing with the sociological structure of business organization. These studies showed that workers aspire to status and recognition among their fellows as a social group and that this aspiration may affect their conduct on the job as much as their desire for money.

SOURCE : From *Cost and Profit Outlook,* August, 1951.

Management has reacted to these findings by endeavoring to make work more congenial as compared with the exclusive emphasis on efficiency which had characterized the Taylor school of scientific management.

Healthy as this newer emphasis is, it can be carried too far. *Fortune* magazine, in one of the articles referred to, reports that management in many firms now regards the morale and satisfaction of its workers as its primary concern. That philosophy can lead to waste and inefficiency since a happy worker is not necessarily a productive worker. Management is steward for an assortment of resources provided by its stockholders which are in turn a part of the resources of the nation. A business firm should be regarded first of all as an operating system if the most effective use is to be made of resources in contributing to the general welfare. Concern for the enterprise as a social system is important but secondary. It should be treated by management primarily as a factor contributing to the efficiency of operations.

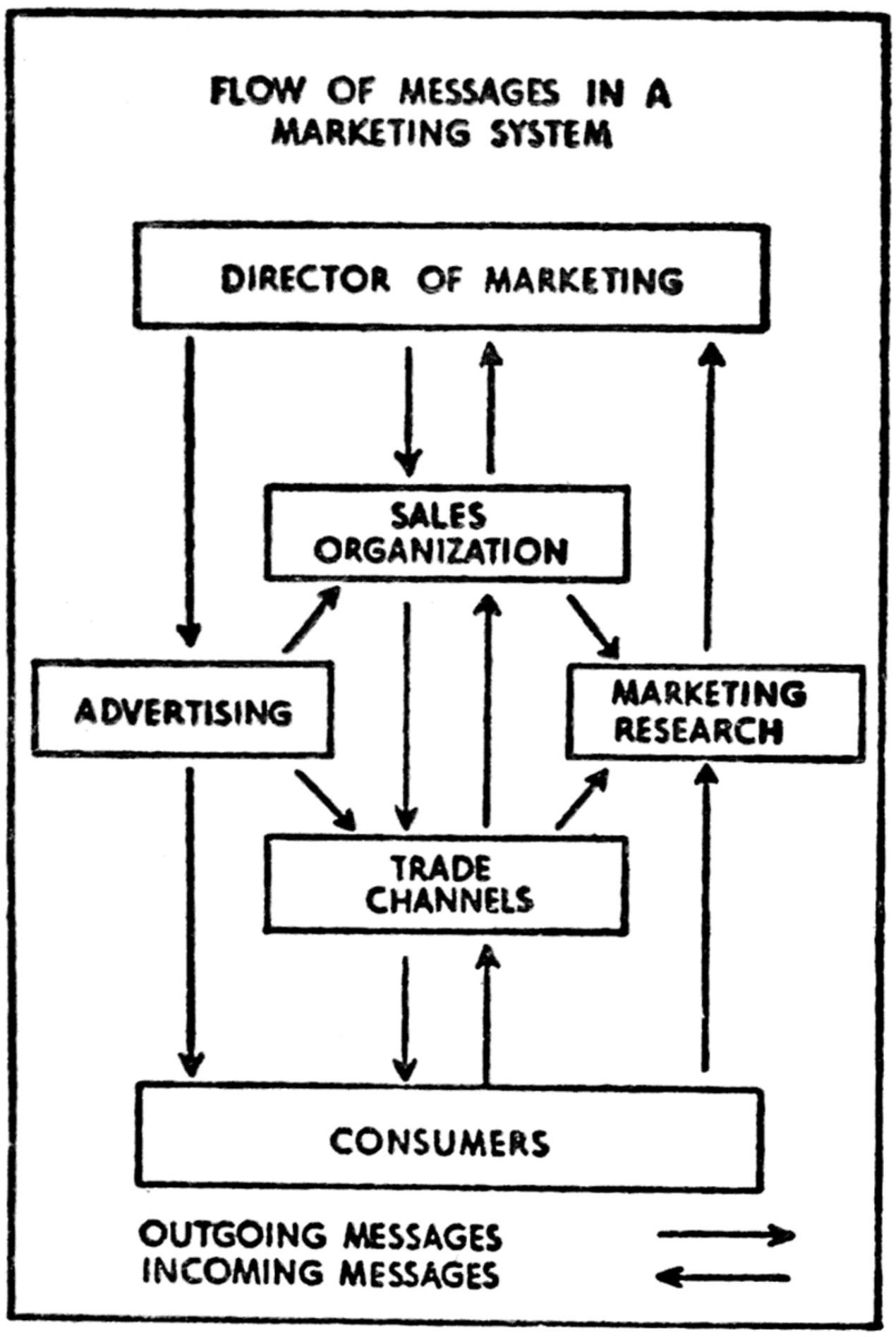
To attempt to put communications in first place would be an even greater distortion. Business needs a communication system precisely for the purpose of maintaining its efficiency as an operating system and an adequate degree of internal harmony as a social system. The best communication system is not the one which transmits the greatest amount of information. There are questions of relevance and priority which must rest eventually on operating considerations. These questions are particularly vital in the marketing phase of business.

The executive who directs the marketing activity of a company is concerned necessarily with the flow of messages almost as much as with the flow of goods. Figure 1 pictures the main channels through which marketing messages typically flow to the ultimate user of a product and return reactions move back to the director of marketing.

The central channel carries messages in both directions. Outgoing messages are the sales messages which follow the flow of goods and are designed to result in purchase orders at each stage in the marketing process. The back flow includes purchase orders, credit information, and comments and complaints of buyers. Advertising provides a supplementary outgoing communication channel directed at building consumer preference but incidentally having an important impact on trade channels and the company's own sales organization. Marketing research provides a supplementary incoming communication channel, providing the director of marketing with essential information about consumers and trade channels and constituting a check on information and opinions received through the sales organization.

To keep a communication system in balance and to prevent it from being bogged down with non-essentials, there must be some definite rules as to the relevance of messages and their priority in transmission. The relevance of messages may be tested against the fundamental purposes of the organization. In general these purposes relate either to daily operation of the market-

ing system or to the creation, maintenance, or expansion of the system. Communication may be relevant to the control of operations on the one hand or to changes confronting the system which necessitate adjustment.



Negotiation and the Theory of Communication

The developing theory of communication is not yet broad enough to cover all of these issues of relevance and priority. In fact it tends to rule such issues out by adopting a strictly mechanistic approach. The theory is drawn in large part from a study of mechanical control devices and transmission lines such as the thermostat and the telephone circuit. These analogies are very useful in suggesting ways of analyzing certain routine aspects of communication. They cannot shed much light on such a strategic aspect of human communication as negotiation.

A thermostat, as pointed out by Wiener, can react to the "information" that the temperature in a room is dropping and activate a mechanism for turning on more heat. It cannot react to the fact that it is snowing outside and the probability that the occupants of the room would obtain a psychological satisfaction from having the room a little warmer than usual. No

doubt it would be technically feasible to design a thermostat which would react to other types of information just as some instruments already allow for outside temperature as well as inside temperature. One thing that is clearly beyond the realm of plausibility is to design two thermostats so that they could negotiate with each other, taking into account conditions not anticipated by the designer, agreeing on a common method of meeting the problem and establishing standards of performance.

Negotiation is the prototype of any form of communication which is intended to reconcile human wills. This would include all forms of persuasion or coercion through language or symbols. It applies to advertising, selling, and bargaining in its many aspects pertaining to prices, wages, and the financing, merging or liquidation of businesses. Any communication which can be acted upon in a routine way has behind it a background of negotiation unless it is embedded in tradition and habit which has never been challenged. In a marketing system even the most routine forms of communication go back to a foundation in prior agreements and understandings. It is true, of course, that communication procedures can become so habitual that those directly involved lose sight of the original objective.

Negotiation in its various aspects is involved in the creation, maintenance and expansion of a marketing system. Information may be relevant to these negotiations which is not relevant to current operations. The channels of communication, the persons involved in discussion, and the responsibility for initiating discussion would be substantially different in the two cases. At the same time there is usually considerable overlap in the channels used and consequent reaction of one type of communication over another. Rumors about reorganization quickly permeate through channels primarily designed to carry operating messages. Morale and efficiency in current operations may be seriously affected. On the other hand the executive or outside consultant who is undertaking to get the information on which to base recommendations for reorganization is anxious to observe normal operation rather than a state of tension arising out of the hopes and fears created by his own investigation. Changes must be made frequently in any firm operating in a changing market and the prospect of change is never very far removed from operations. A sign often appears in front of a building that is being remodelled reading "No interruption to business while alterations are in progress." That expresses a worthy but difficult ideal to be followed in reorganization work.

Communication and Control

All of these considerations suggest that there is a strategy of communication as well as techniques of message transmission. In order to establish rules of relevance governing the information to be transmitted and to deal with priorities and other strategic questions, the communications problem in an organization must be subjected to functional analysis. It has already

been pointed out that communications are relevant to control or relevant to change and to various aspects of each.

Control of a marketing operation is concerned with the application of marketing effort to market opportunity. The exercise of control assumes that operating goals, methods, and organization are well established. Control through communication takes the form of orders and instructions directing various elements in the organization concerning the resources available to them and their respective responsibilities in promoting operating goals. It usually starts with expense budgets related to sales quotas. In many cases control also involves the determination of detailed performance specifications and reports on performance. Conceived in terms of the input of marketing effort, the objective of controls is to set the total amount of input and to direct the distribution of effort over the operating field and the operating period. Conceived in relation to human behavior operating communications may be said to consist of operating signals and other messages designed to prepare the recipient for the proper interpretation of the signal and the proper execution of the desired response.

Through training is as essential for a salesman as for a steelmaster in a rolling mill. Selling, however, can never be subjected to direct control to the same extent as assembly line operations. An operating signal in a rolling mill calls for a response that is well understood and quite automatic for experienced operatives. Even the emergencies are highly standardized and every man knows where his station is when steel plates pile up in a "cobble." Instructions to a salesman must give him more leeway to meet unforeseen situations. They do not in themselves correspond exactly to operating signals but to directions to the salesman as to what to do when he gets the signal from his customer. He may have been trained to handle a variety of situations which typically arise in the sale of the product but it is up to him to recognize and classify each situation in all the diversity of detail which arises in the field. He is also expected to consult with the home office on doubtful cases and to be alive to recurring factors which do not appear to be adequately covered by his instructions.

The director of marketing is constantly obliged to operate in a dual capacity. He must require his men to conform to the prescribed pattern of operation without permitting too many deviations to meet exceptional circumstances. At the same time he must be preparing for any necessary modification of the pattern to meet changing conditions. In a large operation he cannot allow himself to be distracted from control. He cannot afford the time for the factual investigations and the detailed planning that would be required for changing the pattern. That is why research and planning activities are being delegated in an increasing degree to staff assistants and outside consulting organizations. Recommendations for changes are then submitted for the approval of the marketing director. Changes must be

installed under his direction and responsibility if the operation is not to go out of control while the change is taking place.

Communication and Adjustment to Change

The changes that are the subject of relevant communication in a marketing system can be classified under several broad categories. Changes may be made in the goals of the organization, in its operating methods, in its policies, or in the organization itself. Changes may be minor or major and may be responsive to either long-range or short-range considerations.

The goals of a marketing operation may be related to the factor of profits, sales, and market position. Most fundamental is the desire to maintain or expand its market position. Sales and profits derive from market position and must be sought by means which do not endanger market position. Competition and the business cycle also have an effect on the feasibility of marketing goals from quarter to quarter. Sales forecasting and budgeting have already been mentioned as instruments for making these short-range adjustments. New products and new markets represent expansions in marketing goals which require more comprehensive investigation and discussion. A change in goals can also take the form of getting the same result with less money as compared with trying for increased sales. Good communication is vital both in marshalling all relevant information in the company and in getting the sales organization to accept and support the announced goals.

Operating methods are subject to revision for two primary reasons. Either internal analysis or the example of other companies may disclose a better way of handling some phase of the operation. Use of a consulting organization in this connection can short-circuit endless discussion both because of knowledge of what other firms are doing and freedom from involvement in the present methods. Revision of methods may come up for consideration simply because of the growth of the company. Methods which formerly did not apply can be adopted later on because of the larger scale of operations. The installation of mechanical handling facilities in a warehouse is an example of the type of change in marketing methods which may become appropriate at a certain stage of growth although clearly not economical previously. Large-scale operation does not lead to economies automatically but only provides the opportunity. The way to make sure that these opportunities are not missed is to arrange for a periodic review or marketing audit by an outside agency.

Methods of communication should be covered in any general review of marketing operations. There are many concerns in which thousands of dollars are spent for the preparation and transmission of reports which are never used while information that is essential to daily control is neglected. The cost of each piece of information regularly compiled should be weighed against its demonstrated value. Full use needs to be made of the more advanced procedures for the efficient gathering, processing and transmission

of business data. Technical progress in this field has been greatly accelerated in the last ten years. Application of new methods may make it feasible to continue informational procedures which otherwise would not justify their cost.

The term "policy" is often used rather broadly and loosely. It needs to be distinguished from general statements about goals and methods on the one hand, or about organization structure on the other. In the present context policy may be defined as rules formulated at a higher level of authority to guide decisions which have to be made or considered at a lower level. A good rule is one that minimizes the number of exceptions which call for special handling. A rule that is effective in the beginning may come to be riddled with exceptions as conditions change. Modifications in policy should rest on a review of the recent cases covered by the policy and the adequacy of the policy rule in disposing of these cases. A revision is in order if a new rule would substantially reduce the number of exceptions and hence the amount of executive time consumed in administering the rule.

Various aspects of communication are involved in reviewing an existing policy, formulating a new rule, and getting the change successfully installed. It is not enough to announce the new rule and to assume that the matter has been handled. Pressures for further revision or for reverting to the earlier policy can usually be anticipated. The facts which led to the adoption of the new policy need to be presented so persuasively as to stimulate a prompt change in patterns of behavior. A regular procedure for referring issues which presumably cannot be handled under the new rule will provide a check on how well the change in behavior has been accomplished.

Organization Structure and Communication

Modifications in the organization itself cover a wide variety of moves. Individuals may be recruited from the outside, promoted, or finally separated from the organization. Functions may be grouped in a new way and the lines of authority redefined. The company may be merged into another organization or absorb other companies into itself. Changes of this type involve problems of the highest order in the strategy of communication. The status of individuals is directly affected by such changes and it is only natural for the individual to be concerned as much about his status as about the merit of the proposed operating structure. Poor handling of such moves may affect future operations for a long time to come as well as disrupting current operations.

It is difficult to separate the structure of power and authority in an organization from its communication structure. The status of an executive can be defined in large measure by his place in the communications network. To whom does he report, who reports to him, what information does he receive, and what are the limits of his authority in reacting to information and issuing orders or recommendations based upon it? At the higher levels

of executive responsibility competence in communication needs to match competence in judgment. How to listen and how to ask questions, when to praise and when to disapprove, and how to check on channels of communication and command while preserving their essential integrity are among the arts of executive communication.

The director of marketing is always in some measure the captive of the web of communication through which he operates. He receives many messages which are designed to influence rather than inform him. He is usually seasoned enough to make due allowances for this in his control of daily operations through communication. He cannot be expected to perform as effectively in modifying the network since it is virtually an extension of his own personality.

Outside counsel has many advantages both in analyzing the present situation and in guiding the installation of the necessary changes. If counsel is oriented to the functional approach the difference between what is really essential and what is merely a matter of habit or temperament can readily be observed. Outside counsel is usually brought in when some change in company goals is open for consideration. If the new goals are adopted it is easier to get acceptance for new methods and organization relationships which are called for by these goals. Since the consultant has no power to command he is in a better position to let the facts speak for themselves. He can present a picture of the present situation as contrasted with the suggested plan and allow all concerned to draw the inevitable conclusions. He can list the possible alternatives and direct the discussion that leads to general agreement as to which one is to be selected.

This type of consulting procedure is a form of negotiation. The consultant is not a mediator except as he mediates between the facts and the persons who must adjust themselves to the facts. In the most successful cases he provides a framework and a procedure whereby an executive staff may reorganize itself around a fresh perspective as to the nature of its marketing problem and the most effective means of dealing with it. The marketing counsel, like the marketing executive, must be expert in communication. His interest in communication must be kept steadily centered on control and adjustment in an operating system.

Establishing Two-Way Communication

A large proportion of all marketing costs is absorbed by outgoing messages designed to influence consumer preferences and attitudes toward the company on the part of the distribution trades and the general public. Marketing research is increasingly recognized as a necessary adjunct of advertising, public relations and trade relations. It is barely forty years since a great company in the advertising field initiated marketing research as a formal procedure. There are still far too many companies who believe that it pays to advertise but who have no way of knowing whether it actually pays for

them. The same thing can be said for much of the effort expended in cultivating good trade relations and public relations.

An organization sending out a stream of messages to a mass audience must provide an adequate means for the recipient to talk back. Obviously this cannot be done except on a sampling basis and even then the results are useless unless the information is gathered by approved scientific methods. It is true that consumers communicate with suppliers by voting "yes" or "no" with their dollars and much can be learned from an adequate sales analysis. There is still too big a margin for error if the marketing director has only guesses to guide him as to the factors influencing the vote. The difficulties in proceeding without direct communication from recipients is even greater when the outgoing messages are aimed at intangible values such as goodwill of the trade and the general public.

If advertising and related activities are properly balanced by marketing research they take on the aspect of mass negotiation. That means that information and purpose on both sides of the fence are given adequate recognition in the process. Information about the company and its products, and arguments intended to persuade others to the company's point of view make up the substance of the outgoing messages. Information about the aspects of consumer behavior affecting the need for such products and the motivations which are influencing public attitudes are among the types of data making up the return flow. If the two-way communication system is effective, it may bring about changes in consumer behavior on one side and the product and its presentation on the other.

Two-way communication is equally important for effective administration inside an organization but here the requirement has been generally recognized even though it may not be properly provided for. Both internally and externally it is easy for the structure of communication to get out of balance. A functional analysis of communications will fequently reveal the failure of an aspect of communication for lack of a two-way circuit. Remedial measures should endeavor to recapture the essential spirit of negotiation. In external communication there is the additional problem of accomplishing this result through mass media.

48 / New Organization Patterns for Marketing

EDWARD G. KOCH

There is a trend toward "recentralized decentralization" as a strategy for business growth. Evolution of the marketing concept, advances in information technology, and need for centralized control of managerial activity are the chief reasons for this trend.

What's so new about the "marketing concept?" The term has been discussed and written about so much that the uninitiated might be forgiven for assuming that the marketing concept is a dramatic and revolutionary theory that has recently burst upon the management scene; actually, of course, most of the ideas it embodies have been around for some time. What is new—at least for many companies—is the emphasis on making marketing a central part of the business philosophy of the company and elevating the marketing function to a pre-eminent position in the organization.

There was a time when most companies were production-oriented: First they produced the product, then they made a market for it. Selling was thus the important concept—and the difference between selling and marketing is more than a semantic exercise. Selling focuses on the needs of the seller, marketing on the needs of the purchaser. Selling means moving products; marketing means obtaining customers. In production-oriented companies, management tells the sales department, in effect, "You get rid of the products; we'll worry about the profits." In contrast, the marketing-minded company makes every effort to create goods that customers will want to buy at a reasonable profit to the company.

We have had marketing-minded companies with us for some time, such pioneer companies as Sears, Roebuck, John Wanamaker, J. C. Penney, and General Foods have understood and practised the so-called marketing concept for many years. Today, however, more and more companies are adopting this point of view; management thinking is becoming more customer-oriented, and profitable selling is replacing sales volume as the primary objective of the marketing program.

SOURCE: From *The Management Review*, a publication of the American Management Association, vol. 51, February, 1962, pp. 4-12. Edward G. Koch: Professor of Business Administration, University of California (Los Angeles).

A Mature Market

The reasons for this changing emphasis are not difficult to determine. During the past decade and a half, the United States market, although by no means saturated, has become mature. A great many U.S. consumers have satisfied their basic needs for products and goods. They have become more discerning buyers, and they can afford to pass up products that do not completely meet their desires and standards. Moreover, they are spending a larger proportion of their income on services than ever before. Thus, producers of consumer goods must compete not only with each other, but with the growing appeal of vacation trips, higher education, better medical care, and the wide array of services that are becoming part of the "good life" to the American consumer.

Focus on the Consumer

Faced with this situation, many companies are finding that they cannot afford a hit-or-miss approach to marketing problems. The consumer has become the pivot point about which the entire business must move. This shift in emphasis requires more research expenditure, greater product-development activities and increased attention to the short and long-term planning of marketing activities. Marketing plans have become the basis for the design and erection of total corporate planning. Future market plans and sales potentials, for example, serve as premises for the planning of advertising expenditures, sales and promotion efforts, plant expansion and location, financial requirements, and other short and long-term business commitments.

At the same time, sheer sales volume is no longer considered the key to corporate profitability. As competition increases and profit margins shrink, many companies have found that their marketing plans, policies, and strategies must be designed chiefly for their contribution to profits rather than predicated on sales-volume objectives alone. And marketing goals must be consistent with overall company objectives in order to contribute most to the long-range benefit of the firm. This means that the marketing function must be more closely coordinated and integrated with the other activities of the company, and the marketing responsibility has been expanded and reorganized to interlock all functions of the company into greater effectiveness.

Organizational Changes

In short, the modern marketing concept demands that the activities of the entire business be directed toward the satisfaction of consumer needs at a profit, and to accomplish this goal it has often become necessary for a company to rearrange its organizational structure. Although the changes that have been made have varied widely from company to company, depending on the peculiar circumstances in which they may operate, enough experience

has been logged to identify several basic types of organizational set-up that have been established by companies who have adopted this management philosophy.

Simple Product Line

In companies with a narrow product line, relatively simple problems of distribution, and a single channel of distribution, marketing and selling activities are often diffused among the various functions making up the business. Usually, the product-planning function reports to the production or engineering departments, the pricing function reports to the finance or accounting departments, and sales and advertising are separate departments. Sales forecasting and budgeting are often under a separate department or report to the finance or accounting departments.

When such a company adopts the marketing-management concept, all these activities, which obviously bear on the consumer, are properly moved to the direction and control of a marketing director or manager. This executive is under the general supervision of top management and at the same level of delegated authority as production, engineering, and finance.

The specific arrangement of the marketing-management function will be determined by the particular needs and scope of the company's operations. In some companies, for example, some of the technical activities related to the product or product group—such as product development or product research—are not under the direct control of the marketing director but are a responsibility of the production or engineering organization. Other companies place technical product activities in his care, even, in some cases, locating the repair service work with him rather than with production or manufacturing. In all instances, however, the tendency has been toward a task-force approach to departmentalization, giving the marketing director full charge of such activities as market research, advertising, sales promotion, product planning and budgeting, and sales management.

The Marketing Director

This increased centralization of marketing functions requires a marketing executive who is more than the traditional sales manager. The marketing director must think in corporate terms rather than confining himself to building up sales volume; he must define problems for research, analyze results, and develop the indicated policies, plans, and strategies. In doing this, he must integrate the activities of other functions into the overall plans, working harmoniously with all members of top management and with the board of directors.

Such men are not always easy to find; in fact, the chief difficulty many companies experience in adopting the marketing-director form of management is obtaining the right executive for the job. Executive recruiters indi-

cate that the specifications most frequently sought in a marketing manager are these :

1. Ability to plan and coordinate the entire marketing activity on a profit-minded, businesslike basis.
2. Working familiarity with both manufacturing and research.
3. Sufficient knowledge of finance and accounting to be able to judge merger and acquisition possibilities intelligently.
4. Ability to set up and carry out long-range plans for new markets.

Committee Systems

It is quite possible that a company lacking such executive talent but desiring to go ahead with a reorganization under the marketing concept might start with a committee system. Indeed, even companies with highly capable managers often prefer the committee approach, believing that it facilitates communication and coordination among the various functions of the business. In Dennison Manufacturing Company, for example, the president serves as chairman of a marketing committee composed of the marketing manager, the general merchandise manager and his assistant, the research and development director, and the controller. Meetings are held at least every other week to discuss profits, make concrete plans, and decide on courses of action. In other companies, marketing committees are composed of the top executives from sales, advertising, market research, finance, and production.

The advantage of the committee system is that it eliminates many obstacles to interdepartmental coordination. The problems of communication between activities are greatly lessened because each, through active participation, is constantly abreast of the problems, needs, and findings of the other activities represented on the committee. But many companies find committees unwieldy, and they prefer to pinpoint the marketing management responsibility under the line authority of a single corporate marketing director.

Diversified Companies

Although the reorganizations that implement the marketing concept are significant in functional-type companies, they are even more dramatic in corporations with decentralized operations, many of which have shown a decided movement away from the General Motors type of decentralization. This is not to say that all companies with this marketing approach have changed their organizational patterns; some, like General Electric, adhere to the decentralized structure of self-contained divisions. But more often than not there is a strong trend toward a "recentralized decentralization" under the modern marketing concept.

To see how this trend changes organizational patterns, we can examine the effect of adoption of the marketing-management concept in four types

of decentralized companies: (1) those with a package of complementary products or services using the same channel of distribution; (2) those with similar products using separate channels of distribution; (3) those with dissimilar products using the same channels of distribution; and (4) those with dissimilar products using different channels of distribution.

Complementary Products—Same Channels

Companies with a package of complementary products using the same channels of distribution often centralize the marketing-management activity and geographically decentralize selling operations.

In these cases, the pure selling functions are decentralized under regional or territorial line managers for reasons of economy, selective selling, and expanded penetration. Top marketing management reports to the chief executive officer and operates on a staff basis, with "functional authority" over *all* marketing and selling activities. This pattern of organization is well suited to a company selling complementary products through common distribution channels because the company is often more concerned with marketing a "whole idea" rather than individual products.

It is not difficult to find examples of large corporations that have reorganized in this fashion. Among the companies that are now emphasizing centralized marketing are the following :

Burroughs Corporation, after a three-year tryout of product-line decentralization in which each division was responsible for its own marketing, manufacturing, engineering, and the like, abandoned this structure and set up a single marketing activity at headquarters to oversee the marketing of almost everything the company produces.

Illinois Tool Works also centralized its marketing management and decentralized its product groups, which are responsible for their own selling.

Monsanto Chemical revamped its organization to centralize marketing at the top corporate level. This reorganization was designed to bring marketing and production closer together and to get better-coordinated product planning.

Humble Oil consolidated six operating affiliates into one, with centralized marketing management at the headquarters office and decentralized field selling operations in four regions across the country. Company management anticipates that overall sales volume can be increased appreciably in the years ahead through the use of a single marketing organization and a company-wide trade mark or symbol. The new organization will be able to make use of national advertising and promotion, to enter new marketing areas where none of the separate affiliates operated before, and to expand the network of marketing facilities in some areas where present representation is comparatively light.

Similar Products—Separate Channels

A second type of marketing organization in decentralized companies can be found in companies with similar products and separate channels of distribution. Under this kind of organization, production and marketing are centralized activities and selling is a responsibility of the divisions. Examples of this pattern are evident in the automobile industry, where Ford Motor

Company and Chrysler Corporation—and, to some extent, General Motors Corporation—are moving toward this kind of "recentralized decentralization."

In 1955, Ford Motor Company planned to set up separate, self-contained car divisions to compete line by line with General Motors. Within four years, the company created four new divisions—Continental, Lincoln, Mercury, and Edsel—and dismantled them because sales volume was not robust enough to absorb the divisional overhead. In 1957 and 1958, Mercury, Edsel, and Lincoln were combined into one division. In 1959, Ford dropped the Edsel line and transferred the Lincoln-Mercury division's assembly, purchasing, and production to the Ford division, leaving Lincoln-Mercury merely a sales organization. In 1960, the company took all assembly, purchasing, and production-engineering operations out of the Ford division and placed them in a new centralized automotive activity. This was the final step in centralizing all production, keeping market planning and strategy centralized at headquarters, disbanding self-contained profit centers, and assigning only selling responsibilities to the divisions.

Chrysler Corporation experienced a similar evolution in its organization structure. In 1950, Chrysler was structured on the simple lines of any manufacturing plant of an earlier generation, with a chief executive officer and vice-presidents for finance, engineering, and sales—all operating executives. Reorganizing was a gradual process that started with a program of divisionalization to get control of costs. In 1956, sales responsibilities were taken from the divisions and given to the central staff, evidently to obtain marketing information for headquarters. The system got another upheaval in 1958, when manufacturing operations were taken from the car divisions and put into centralized functional groupings, and the divisions were once more given responsibility for sales. As a result, Chrysler now has a strong policy, market-analysis, and planning staff at the top corporate level, and a centralized manufacturing activity to handle all production. The divisions have no other task than to sell automobiles.

General Motors is the least consolidated of the "Big Three." Each GM car division has its own engine, suspension, and assembly facilities, and Chevrolet and Buick have their own transmission operations. However, a dispersal of activities has started: Now Buick and Oldsmobile share an engine, Chevrolet makes transaxle and rear suspension parts for Pontiac, and Pontiac produces differential parts for Oldsmobile. It is conceivable that the future will see a changing pattern of "recentralized decentralization" in General Motors as it seeks to gain more of the advantages of the modern marketing concept and, along with them, the paring of burdensome divisional overhead costs.

At all three major automotive companies, responsibility for breaching new markets, capitalizing on new-product diversification, and utilizing the modern marketing concept is lodged in a separate office—next door to the chief executive.

Different Products—Same Channels

A third type of recentralization occurs in companies with dissimilar products but common channels of distribution. In this structure, selling operations are centralized under a sales division, because selling methods are the same for all products, but marketing and production functions are delegated to various separate product divisions. Although these divisions are responsible for enterprising efforts and expanded profits on their respective lines, their activities are subject to stringent central-office control by the vice-president of marketing, who oversees marketing management throughout the organization. He approves all short and long-term planning of the product divisions, including advertising appropriations, sales-promotional deals, pricing policy and strategy, and expense budgets. In addition, he is usually responsible for marketing research, advertising research, and broad consumer-research functions.

Companies with this type of organization—among them, General Foods Corporation, Pillsbury Company, H. J. Heinz Company, and Procter & Gamble Company—depend heavily on consumer and product research to guide them in producing products that meet consumer needs and desires, thus attuning the entire corporate effort to the consumer. Such companies are truly "marketing managed." They utilize research to define needs or desires that a product might be designed to fulfil. New-product ideas come from interpretation of consumer surveys or from astute anticipation of consumer needs. Product divisions, working with the central office of research and development, are responsible for initiating product ideas and improvements; pure research is left to the central R&D activity.

During a product's lifetime, the product division uses research to analyze the quality and value it represents to the consumer, so the company can predict or ward off competitive inroads. Should a product develop trouble, it is the job of the product division and central R&D to determine how much of the problem lies in the product and how much is created by outside pressures. Even when products are successful and trouble-free, product divisions continue to study them for opportunities to redesign or repackage them, or otherwise to improve their salability and expand their market penetration. The "marketing-managed" companies are most sophisticated in the use of research and the marketing concept to satisfy today's mature consumer needs at an adequate return to the company.

Different Products—Different Channels

A fourth type of recentralization is found in companies with dissimilar products using different channels of distribution. Even though product responsibilities may be delegated separately—e.g., for consumer and industrial products—they are often controlled by a top management executive operating under the modern marketing concept, as is the case with Du Pont, Borden, and General Mills.

Companies with a wide variety of products, both consumer and industrial, must always be alert to the possibility that their profit position may be impaired even while their total sales are growing. Top-heavy selling and marketing activities can be a serious drain on company resources, sometimes to the point where it is actually more profitable to eliminate some lines than to have too many irons in the fire. It is interesting to note that Monsanto Chemical Co. developed an excellent consumer product in "All," a home-laundry detergent, but sold it outright because the product did not fit their line, used a different channel of distribution, and required a separate selling effort.

Recentralized Decentralization

All these organizational realignments, different as they are, have a common element: a marked tendency for strong central-office control over marketing and product planning, analysis, and strategy. This strict marketing direction from the top, which is akin to the rigid central-staff financial control found in the General Motors type of organization, is a feature of the organization of an increasing number of companies.

The revolution in marketing management, along with the revolution in information technology, may very well portend a reversal of the trend to decentralization and a strong recentralization of major business functions in the corporations serving the markets of the sixties.

VII / EVALUATION OF MARKETING EFFORTS

49 / How to Use Market-share Measurement

ALFRED R. OXENFELDT

Too frequently management relies upon market-share measurements to evaluate the effectiveness of the firm's marketing efforts. But such measurements must be used with great care since indiscriminate use can lead to costly mistakes and lost opportunities.

Market-share measurement is among the most widely used of all business tools, and it is consequently surprising that one cannot find anywhere a full discussion of why it is used, the assumptions it implies, and the occasions when it is likely to be reliable or those when it will lead one astray.

Study of market shares can be a most effective aid to management diagnosis, but only when properly evaluated and discriminatingly applied. Does such usefulness warrant its current widespread and often automatic application? What are its special limitations which must be, and usually are not, taken into account? This article will attempt to answer these questions and to suggest the most effective way of utilizing this valuable but overworked tool.

Management employs market shares:

1. To appraise performance.
2. To express market targets.
3. To assist in forecasting sales.

Although these uses have some points in common, they are essentially different, and the validity of market-share measurement varies from use to use.

APPRAISING PERFORMANCE

It is difficult to draw a line between the use of market-share measurement as a standard of appraisal and as a market target, for underlying any standard of appraisal is some assumed target. Specifically, if one judges management's performance by changes in market share, he assumes the minimum target of maintaining market share. Despite overlap between market-share measurement as a target and as a standard for appraisal of performance, I believe it will be helpful to discuss the two uses separately.

One need hardly point out that most firms do in fact collect, analyze, and

SOURCE : From *Harvard Business Review*, vol. 37, January-February, 1959, pp. 59-68. Alfred R. Oxenfeldt : Professor of Marketing, Columbia University.

base decisions upon market-share data when such information is obtainable at modest cost. Indeed, most trade associations regard as one of their chief functions the promulgation of data that permit members to compute market shares. As far as an outsider can make out, these measurements of market share are used with considerable confidence to determine whether management should continue current policies (which is the conclusion usually drawn if the firm has expanded its market share) or whether it should alter its policies if it has lost market position.

Basic Reasons

Perhaps the main reason for using market-share changes as a standard for appraising a management's performance is the belief that such measurements separate changes in sales resulting from forces *outside* the firm—such as general prosperity, recession, shortages of goods, changes in price throughout the industry, shifts in foreign demand, and government purchases—from those for which the management of the firm can be held responsible.

On this score, then, market-share measurement overcomes the weaknesses of most other bases for evaluating management performance (like total dollar or unit sales or total profits), since other measures might give management credit for an increase in business, even when the rest of the industry had achieved a greater increase. Conversely, these other bases would direct criticism at the management of a company whose sales declined, even if they fell less than total industry sales.

A second reason for appraising performance by market-share changes is that it seems to make *reasonable* demands of management. In effect, this standard compares the management of the firm with the average performance of all other companies in the industry taken in combination, rather than, say, with the performance of the very best. The apparent fairness of this standard of comparison, with its ostensible impartiality and objectivity, probably is one of its greatest appeals.

If pushed to justify market-share measurement as a standard of management appraisal, these are the two reasons most business executives produce. They are quite rational and logical, but it seems that some important emotional factors also are involved. One of these is the tendency to project changes into the distant future; a drop in market share (even when unaccompanied by a decline in total sales) thus seems to conjure up the specter of bankruptcy. Another is the tendency to interpret a decline in market share as evidence of having been bested by competitors in open and fair combat and consequently proof of personal failure.

Mistakes in Reasoning

In very simple terms, the use of market-share measurement as a basis for evaluating management performance implies that a firm should be able to

keep pace with all its rivals—taken together—in total sales. Although superficially reasonable, this assumption is rarely legitimate. In fact, there is strong reason to question whether *any* firm s*hould* be expected to keep pace with its rivals, whether the pace is clocked in terms of sales or any other unit.

Can one assume that every firm is *always* affected equally by all "outside forces"? Although it may seem fair to expect a firm to keep up with its industry generally, there are many situations where such an expectation is wholly unwarranted. For example, this standard presupposes that there will be no newcomers in a business, or that their effects on the market are offset by firms leaving the business, or that the impact of new firms or exits from the industry falls equally on all established firms. These presuppositions may apply in many cases, but there are probably more where they do not.

Because of the entrance of new firms into some industries, a decline in market share on the part of many established firms is inevitable; conversely, the recent merger movement and the squeezing out of firms from a variety of industries ensures that the survivors will attain higher market shares without any particularly meritorious action on their own part. One must expect that some firms are affected more than others by changes in foreign markets and sources of supply, differences in rates of regional growth, the strength of local enterprises, the actions of local governments, and so on.

Perhaps the most glaring deficiency of market-share measurement as a standard for the evaluation of management performance lies in its implied assumption of ignorance about the firm and its industry. Persons closely associated with a firm know a great deal about its financial and personnel resources, its command over strategic locations, natural resources, secret processes, ties with customers, and other possible sources of competitive advantage. They also know rival companies' situations with respect to these conditions. Hence they have some basis for deciding whether the firm would perform as well as, better than, or worse than the industry generally if it exhibited the same degree of management skill and "application." And to someone who has special knowledge of an industry and firm, the most *unacceptable* assumption is that the firm should grow and decline in line with the rest of the industry. Although the implicit assumption that all firms in an industry are equally endowed may serve someone who has no special knowledge of the industry, it should not be acceptable to those who know the detailed facts of a specific case.

If the foregoing reasoning is valid, it is a mistake to assume that a management should be able to maintain its current market share, that failure to do so is clear evidence of managerial deficiency, and that greater growth of sales than attained by the industry generally is proof of managerial excellence. It follows, then, that one must expect the use of market-share measurement for appraising managerial performance to result in mistaken evaluations of individuals. Even more important, it is likely to result in unwarranted actions to maintain market shares in the face of inescapable declines and in smugness

because of slight market-share gains when very great increases in market share were readily attainable.

SUCCESS IN APPRAISALS

If measurement of market share is to serve as a standard by which management's performance may be appraised reliably and objectively, it must meet several tests in addition to the one just discussed:

(1) It must be possible to compute the market shares accurately, or at least make computations that are comparable over a moderately long time.

(2) The standard must be consistent with the basic objectives of the firm—that is, changes in market share must reliably indicate changes in the firm's basic "success" or prospects of future prosperity.

(3) The standard preferably should direct attention to sources of difficulty or of success; and it should suggest appropriate remedial action when management has been performing badly.

Difficulties in Measuring

Let us turn first to the actual measuring process. Market shares can be measured in either of two general ways :

1. *By comparing one's own sales with known industry sales* (as compiled by a trade association from confidential reports from all companies). When the product is a consumer good, such data almost invariably describe sales to middlemen rather than to consumers, with the resulting danger of delayed recognition of distended or swollen inventories in the channels if the consumer market is lagging. This, of course, can cause managerial complacency when decisive action is called for.

2. *By surveys of consumers' purchases* (the panel survey being by far the most commonly used for this purpose). This second type requires very great effort and outlay if reliable information is desired for fluctuations in market share in the individual communities. (Such studies also reveal changes in individual competitors' market shares.) A very large sample would be needed to cover the major markets of the nation, especially if there are many brands of the product.

Many firms can compute market shares by using several different types of basic information. For instance, market shares may be computed in physical units, without respect to the dollar sums involved. In some industries one obtains widely different results, both in absolute amount and even in direction of change, according to whether dollars or units are used. For example:

Some firms in the television business have been leaders in portable sets while selling relatively few consoles. These companies would rate higher if judged by unit volume than by dollar volume. Almost as important as the

distinction between portable and nonportable television sets is that between table models and console sets. The difference consists of more than dollar value; one is substantially more profitable than the other.

Difficulties in measuring market shares arise also from the factor of timing. Market-share measurement must make allowances for unusual sales conditions at the very beginning and end of the time period under scrutiny. Especially when one is measuring market share during a short period, like a month or a quarter of a year (and more especially when measurement is being made in limited geographic areas), large deliveries on the first or last days of the month are not unusual and tend to distort month-to-month comparisons with market shares in the preceding year. In fact, end-of-period abnormalities pyramid because they increase or reduce sales in one month abnormally, while having the reverse effect on the following month, thus doubling the original distortion. As a result, ordinarily a considerable amount of time must elapse before a firm can detect confidently a change in its market share. These timing distortions can affect many companies and distort the industry total as well as a firm's sales results.

Other measuring difficulties arise because the market-share measurement might be made at different points in the industrial structure, as we noted earlier. Specifically, it would be possible to measure the retail sales of a firm as a percentage of all sales to the ultimate consumer, or one could measure market shares by distributors' sales to retailers; and similarly, market shares might be measured by manufacturers' sales to wholesalers. Rarely would one obtain the same market-share results by these different methods; one measure might show an increase during a period in which another indicated a decline. To that extent, conclusions based on one measure could be incorrect for a considerable period.

Thus, it appears that difficulties of timing and stage of industry at which sales are to be measured can produce measurements of market share that are misleading. And whenever serious difficulties of measurement exist, one can be certain that even more serious errors in interpretation may arise.

Diagnostic Tool

Does market-share measurement meet the test of indicating sources of difficulty or the factors making for success? Doubt has already been cast on the correlation between changes in market share and managerial excellence. But suppose we pass over this difficulty and consider a situation in which the market share of a firm has declined and nothing other than managerial weakness can explain the decline. Can management infer anything about the specific errors that require correction from an examination of the change in market share? Clearly there is nothing in the knowledge that a firm has lost ground relative to the rest of its industry to indicate why this happened. At best, market-share movements can signal that something is wrong, but they do not indicate the cause of the trouble.

Indeed, market shares offer only one advantage over cruder standards; namely, they "automatically" adjust for conditions that are common to the industry as a whole. However, this automatic adjustment is not necessarily an *accurate* one, for it implies that outside forces impinge equally on all firms, which we know is not generally the case. Apart from basic defects in the underlying rationale, market shares pose difficulties in measurement that weaken their reliability; and, even when they do signal managerial weaknesses, they do not indicate the conditions that must be rectified. On balance, then, measurement of market share provides a faulty standard by which to judge the excellence of management.

Specific Requirements

Before going into the ways in which market-share measurement can be used as an effective appraisal tool, it is wise to consider for a moment just what one can reasonably expect from any tool for the diagnosis of managerial performance. Clearly, no statistical or "mechanical" processing of data will disclose the most efficient course of action to take. Indeed, one may safely expect that actions which would have been successful if adopted by one firm would have injured another in the same industry. Moreover, one could not apply *directly* to the future the lessons learned from a study of the past; one must recognize that management's interest in the past is not to fix blame but to learn lessons that can be applied in the future.

A distillation of an industry's experience usually is extremely helpful in selecting policies and specific actions for the future. Two distinct steps are involved in this process, however, and these stages should be kept quite separate:

1. Determining what contributed to success in the recent past.
2. Deciding what would prove successful in the future, taking account of changed conditions in the industry or in the firm's position within the industry.

A diagnostic tool can, at best, serve for the first stage. Even then it is unrealistic to expect definitive results, for the number of variables operating in any market situation is too great to allow each one to be isolated and graded.

One is entitled to demand of diagnostic tools that they bring together the most relevant data bearing on a problem and place the material in a framework which facilitates reliable interpretation. And yet we must not be surprised if the very best tools we can fashion still lead competent persons to different conclusions, for business is extremely complex. Its complexity, however, is not so great that analysis of recent experience is fruitless. On the contrary, the greater the complexity of a problem, the more urgent is the need to learn whatever one can about it; even the most informed are likely to err frequently. And the uninformed will not only err more often, but their errors are almost certain to be more disastrous.

Considering all these general qualifications, how can market-share data contribute to diagnosis and to marketing success? Market-share measurement clearly must play a central role in diagnoses of business success because it reveals how buyers have responded to the whole complex of actions taken by all firms in an industry. Taken singly, as already indicated, such data only describe what happened without explaining the all-important *why.* But studied in conjunction with the market actions taken by all firms—those responsible for changes in market share—the data acquire deep meaning.

This is especially true when one examines changes in market share in individual markets, rather than changes in national market share; for changes in national market share of a firm generally are unlike those that occurred in any individual market. The firm's national position usually reflects the combined effects of substantial increases in some markets and large declines in others. Under such circumstances, which are not at all unusual, *national market-share changes present a wholly misleading picture of what has actually happened to a firm in any specific market.* Moreover, they tend to suggest incorrect explanations for what has occurred.

Individual Markets

If one is to understand what policies make for market success and failure in an industry, one might proceed in any of the following ways :

(1) He might select for detailed examination all cases of dramatic recent success and failure.

(2) He might select for close investigation individual companies that employed quite different sales programs and observe the effects of these differences.

(3) He might select for close scrutiny only those firms which recently changed their marketing policies and observe the effect of the change.

(4) He might study the experience of all firms.

Even the simplest of these four possibilities represents a very substantial effort, for an explanation of success and failure emphatically must not rest on such notoriously unreliable sources as "common knowledge" or "trade information." It is essential that all available data be gathered—even at considerable expense—to put together a fairly complete story on what was done and what happened as a result. If the results are to be reliable and usable, one must investigate experience in individual markets, where the effects of any marketing policy are likely to reveal themselves quite sharply and with minimum distortion.

By using the foregoing method, management can obtain a large number of individual market situation for close study. The experience of each firm in each market represents a separate, and potentially revealing, story in itself. By combining the stories about many firms in many separate markets, one can obtain a body of experience from which he can draw fairly reliable conclusions.

This method of diagnosing managerial performance thus overcomes one of the fundamental difficulties confronting managements which desire to formulate policy on the basis of previous experience—that there apparently are very few cases for analysis. Actually, by shifting from a study of national market shares to shares of individual markets, one obtains a very large body of evidence from which to determine the factors making for market success and failure.

MANAGEMENT TARGETS

We noted earlier that a second major use of market shares is to express top management's market objectives. Let us now examine their rationale and validity in this use.

Unquestionably many, if not most, managements express their market objectives in terms of sales volume and, more particularly, as some particular market share. To be specific, many managements base their marketing programs for a year, and sometimes for even longer periods, on a decision to attain a specific—or simply a larger—share of the market. What kind of reasoning lies behind such goals, and what is likely to result from the pursuit of them?

Basic Reasons

One must expect to find that all firms in an industry will consistently attempt to attain sales well above the current total, for many of them are consciously trying to increase their share of the market. It has been found that in many instances where the total sales for the industry are accurately estimated, there will nevertheless be substantially over-expanded facilities because most firms in the industry have projected a larger share of the growing market for themselves. Obviously, the combined shares of all producers must equal 100%. However, no mechanism exists which compels all producers to set sales targets that are mutually consistent; and there seems to be a pervasive bias in favor of shooting for and expecting—hence actually planning for—greater sales than can reasonably be expected.

Let us start with a top management that has set a goal for the firm of increasing its market share by a prescribed percentage. In effect, it is establishing a target for lower levels of management. In pursuit of this goal, lower levels of management (possibly with some assistance from top management) will devise a program of sales stimulants that might include special sales promotions, price reduction, improvements in product design, increases in sales force, higher advertising expenditures, changes in distributors, stronger incentives for salesmen, intensified sales training, and the like.

Whatever the nature of the final program, it will have been sparked and its basic outlines determined by the stated resolve of top management that

the firm should attain a specified increase in market share. In the absence of this target, one must assume that the sales program worked out would have been quite different; to do otherwise requires us to conclude that top management's targets are ignored.

A few critical questions should be asked about this form of expressing management objectives :

Are managements persuaded that an increased share of the market is a desirable end in itself at any and all times?Do they, for instance, assume that a higher share of the market will always be accompanied by higher long-run profits? If so, can this assumption be used as a universal rule?

Can management draw any reliable conclusion about the effect of increased market share on profits without spelling out and computing the cost of a concrete program that is likely to increase the firm's market share? Under what circumstances do top executives believe that an increase in market share is worth the cost that may be required to achieve it, and when are they reconciled to their current market share?

Does management believe that a firm's prospects for survival are enhanced automatically by an increase in its market share?

Do top executives ordinarily aspire to a larger share of the market to achieve the status of a price leader, or to bring about some other change in its status? Or do many managements simply decide to work for a larger share of the total industry's business as proof of superiority over rivals?

One can be certain that managerial thinking will vary widely from case to case so that there can be no single answer to these questions. But it is clear that one vital question, deserving of any management's attention, does emerge: What are the full consequences of changes in market share and when are the fundamental objectives of business likely to conflict with the end of increasing market share?

It is unlikely that any moderately competent management would completely ignore all considerations other than market share. One must expect top management to recognize that market share does not *necessarily* imply greater profits, survival value, market status, or whatever other ends management may desire to achieve. On the other hand, several very compelling reasons lead managements to employ market-share goals rather than the clearly desirable ends of profitability and survival. Even more important, *once a target has been set and passed on to lower levels of management, the factors other than considerations of market share that might have been recognized by top management may often be overlooked.* That is, as the goal is presented to middle-level management, it may become a target in and of itself. If so, there is strong likelihood that the cost of attaining the goal may receive little attention and insufficient thought may be given to the costs of holding an increased market share.

One will never be able to ascertain definitely what considerations underlie the decision of managements to increase their market shares and the extent

to which their subordinates are influenced by considerations other than market share. If asked directly, executives would not admit that they ignore considerations of profitability even if such were the case. It appears impossible to develop a research device which would demonstrate reliably whether or not that were true.

My own experience as a consultant, discussions with others similarly engaged, and study of the literature about the techniques employed by management and the manner in which managers conduct their activities, all suggest that no matter what verbal qualifications accompany these techniques, they are in fact generally used as if they were the main objectives the firm should pursue—unless their attainment clearly would jeopardize survival or be extremely unprofitable.

Price of Expediency

By understanding why managements generally state their objectives in market-share terms, one can readily explain why they carry such great weight.

For one thing, management is unable to employ the more pertinent target of *profit share;* profit share represents the proportion of all profits made in the industry on the particular items sold by the firm. It does not require excessive charity to allow that management would, if it only could, express its targets in terms of relative *profit,* rather than sales performance. However, data are lacking which would permit the computation of profit shares. Profits are not always reported publicly, and often they are not even disseminated privately by trade associations. More important, most firms produce a dissimilar mix of products, and each one has great difficulty in computing for itself the profits contributed by any single product; for rivals, such computations are doomed to remain more fantasy than fact.

Management may well conclude that profits, survival, and all such desirable ends are closely connected to unit sales. Many widely held concepts emphasize the dependence of profits and general success in high sales volume. Most important among them are the "break-even chart" type of analysis, the related concepts of "contributions to overhead" and the distinction between "fixed" and "incremental" costs. All of these notions imply that unit profits rise rapidly as a firm attains high levels of sales.

In addition, many executives place strong reliance on what might be termed a "band wagon" sales effect. They hold, not without reason, that gains in market share tend to perpetuate themselves because potential customers are more easily persuaded to purchase a product that is growing than one that is losing in popular favor; also, buyers of most products apparently replace a product with another of the same make more often than with some other make.

The preceding reasoning does not pass on the validity of views which suggest that a high correlation exists between profits and unit sales. Presently I shall

consider this subject at some length; at this point I simply recognize that both the unavailability of data permitting the computation of profit shares and some widespread business concepts force managements to use some other basis for setting their targets and encourage them to accept market-share measurement as being tantamount to profit measurement. (Persons who are so minded may consider this discussion a critique of the assumptions underlying neo-classical price theory that businessmen attempt to maximize profits. To the extent that market shares are not correlated with profits, and businessmen think mainly in terms of market share, the conclusions of price theory are likely to be in error.)

Thus we find that top managements generally express their targets in terms of market share although they may weigh other considerations in their deliberations. The fact which stands out is that the targets they set for their subordinates are *expressed* as market shares and that other considerations are likely to be given little weight and even ignored by their subordinates. It is also clear that a lack of data on profits by item and some widely held business concepts reinforce reliance on targets expressed as market shares, and, further, that the use of market-share targets assumes similarities between the past and the present and between each firm and the industry as a whole—similarities rarely occurring. Accordingly, we are driven to the conclusion that targets stated in terms of market share may be in conflict with other goals of the firm, such as maximum short-run or long-run profits, minimum risk of loss, or maximum prospects for survival.

Managements must therefore recognize the danger of a conflict between market share and other more valid objectives. This danger cannot be dismissed as merely a theoretical possibility; there is no reason to consider this danger small. Use of market shares as a method of expressing market targets may be explained on the grounds of convenience. But the price paid for this convenience may be very high.

If market-share targets conflict so often with profit, risk, and survival goals, should management scrap the use of market shares altogether? If that were done, what could be substituted in their place? Or is it better for management to employ a combination of targets with market share as only one?

Multiple Targets

Most top executives state that they pursue a combination of objectives: they apparently aim for some profit target, possibly figured as a percentage of net worth, sales, or total assets, for financial liquidity, *and* for larger market share. But just as soon as a manager sets himself multiple objectives, there arises the danger of conflict among them. If all standards led to the same result, then a single standard would suffice. If they can conflict, then one must be given priority over the other (in which case one would have

sufficed from the beginning), or some basis must be established whereby an executive can decide how much of one objective to sacrifice in order to achieve the other.

This possible conflict among goals is sharply illustrated by the experience of the Soviet Union:

Russian planners establish goals in two main forms: they set physical output targets and also cost budgets (an amount to be paid out to the various factors of production). Not infrequently the output goals can be met only by incurring heavier costs than were allowed in the plan. In these cases the plant managers are faced with the choice of subordinating either the output goal or the cost goal. One must expect that the existence of two goals that sometimes conflict generally causes different behavior than would occur if a single goal were established. Possibly the existence of two goals is inescapable in the USSR because economic planning changes the function of price, as it does *not* in our economy.

Is business management justified in including market share as one of its multiple goals? close analysis should reveal that other goals always take precedence over market share so that the use of market-share targets introduces a potential sacrifice of more valid objectives. If so, they should clearly be abandoned altogether.

At best, increases in market share are closely associated with increases in profitability, improved chances of survival, and minimizing the risks of loss. However, they cannot be considered business objectives *in and of themselves.* To the extent that they are correlated with other business objectives and additionally possess the advantage of being measurable, they may be useful yardsticks for management. However, the association between market share and, say, profitability is not always close; in some cases it will be negative. Consequently, few managements can afford to be governed by considerations of market share or to establish targets for subordinates in terms of market share.

Top executives can approach the task of target setting from either of two points of view:

(1) They can ask what actions they might adopt for increasing their profitability, survival prospects, and the like. Once they have isolated all promising alternatives, they could explore the probable revenue and cost effects of each; they would then presumably elect the alternative offering that combination of profit expectation, exposure to risk of loss, and threat to survival most closely corresponding to the relative weight the owners place on these objectives.

(2) As an alternative, management can ask what courses it could pursue that would increase the firm's market share. Once executives had explored alternative programs designed to give them a larger share of the market, they might estimate the probable revenue and the cost, risk, and survival effects of each one. Again, they would presumably elect the alternative which

they found most attractive because of its profitability, risk, and survival characteristics.

Danger of Indifference

One might conclude from the above observations that there is nothing gained or lost by setting targets in terms of market share. But a more accurate conclusion is that market-share reasoning can only increase the danger of loss and contribute nothing toward an improved selection of policy. For one thing, one must recognize that profits, survival, and risk might be optimized by accepting a somewhat smaller market share rather than by attaining a larger one.

Further, the foregoing discussion of how market shares might be used as a starting point toward the selection of a policy showed that one must examine the costs of attaining increased market shares before one can pass on the desirability of that goal. If that point is accepted, it becomes clear that the selection of the target of an increased market share requests the same level of management—top management in almost every case—to examine what risk and gains would be involved in attaining it. Otherwise there is very grave danger that the goal will be attained at a sacrifice of the firm's ultimate longer-run objectives.

In short, when management thinks primarily in terms of market share, it is likely to be led into giving insufficient attention to more vital considerations.

Mistaken Targets

Let us consider some recent examples of market-share reasoning and see to what results they have led. One of the most common is the aim of being the "most widely bought" brand, and a good instance of it is found in the low-price automobile market :

In 1957, up to the very end of the calendar year, both Ford and Chevrolet apparently were balancing two objectives : the first was to produce the "correct" number of automobiles to match sales at retail, and the second was to edge out the other and reach a higher total of output—which ultimately would become sales. At the same time, almost frantic efforts were made to boost sales in order to attain first position among all makes of cars. The outcome may well have been a weakening of the prices of new cars and a build-up of inventories of unsold 1957 models that damaged both producers and distributors.

According to the opinion of many qualified observers, another example of market-share reasoning may be found in what happened in the television industry :

Many influential people within the industry claim that General Electric's

top TV executives were told that GE would not be content with a position of less than second place in the TV industry. The staff accordingly worked out a program designed to accomplish that objective. With the boost to sales conrtibuted by introducing a portable set, but even more by making very great outlays for advertising and setting such a low price on the portable that even a large sales volume would mean low profits and possibly losses, General Electric quickly spurted from around fifth position in the industry to second place.

At one point GE claimed to have reached first spot, and it did (for a short time in 1956) attain a market share that was not far behind that of RCA. As already indicated, this jump in market position was associated with heavy sales production outlays and relatively low prices. It is widely alleged that GE suffered a heavy loss on its TV operations during this period. Many in the industry say that GE "bought market position." If such a purchase represented a sound investment, of course, it should be applauded, not condemned.

This version of what happened, which is strongly denied by GE, continues as follows : Once a large market share was attained, GE attempted to cash in on its new status. Top management is said to have indicated to lower-management levels that TV operations were to be expected to show a "reasonable return" in 1957. During that one year, GE dropped from about 16% of the market (in unit sales) to about 12%. A company can make a lot of money on 12% of the TV market, and possibly GE did so. Its experience may prove, however, that it can be very expensive to attain and to maintain a larger market share, for there is no real reason why a bigger market share should be worth the cost of getting it.

SALES FORECASTING

In addition to the two uses already discussed, market shares are used widely in sales forecasting. Many forecasters estimate the total sales of a product (often in stages) and arrive at a sales forecast for their firm by projecting its recent market-share changes. This use of market-share measurement will be passed over very quickly, for it raises issues that are largely unrelated to the matters discussed earlier.

In those industries where market shares are relatively stable, and firms that are able to compute their shares are able to determine how stable they are, the projection of market shares may be an extremely useful forecasting device. But in industries where market shares do fluctuate widely and erratically, they will not serve well in sales forecasting.

When market shares characteristically change very slowly, this fact implies a vital conclusion: that sales of the product are belated responses to actions taken to increase sales. In other words, strong forces prepetuate the established division of total business. These forces might consist of several factors, such as:

Close personal ties between buyer and seller.

Adjustment by the industrial buyer of his production arrangements, or adjustment by the consumer of his household arrangements, and so on, to the use of a particular brand.

The possession of supplies and repair parts suitable for only one brand.

Belief that one obtains a higher trade-in value on the same brand of product than on any other brand.

Or, simply, irrational brand loyalty based on familiarity, perhaps mixed with the desire for security in using what is known and tried.

Where great stability of market shares exists, management must not expect to alter market shares much or quickly. Concerted efforts to do so are almost foredoomed to involve costs far out of line with the benefits. Moreover, when market-share changes do occur for such products, they generally are the result of past actions taken by former managements.

CONCLUSION

Market shares have become a language for the expression of market targets by top management. In the process, subordinates often lose sight of the more substantial objectives of business enterprise. Inasmuch as market share is not uniformly correlated with profitability and freedom from inordinate risk and security, one must expect market-share goals to conflict with these other goals fairly frequently. Accordingly, management is rarely wise to state its objectives in market-share terms unless it also specifies the expenditures it considers justified to attain them.

Even though market shares sometimes permit a sales forecaster to derive an estimate of sales for a firm from an estimate of sales for an entire industry, this use is valid *only* when market shares are relatively stable. And, of course, the goal of most managements is to unstabilize market shares by attaining a larger share for their own firm at the expense of the others.

The use of market-share measurement by top management has become almost universal, possibly because of a general unawareness of its flaws as a managerial tool; on the other hand, its widespread use suggests that it has proved useful to some degree. Market-share changes are at best a signal—generally belated and blurred—that difficulties have arisen or have been overcome, but they cannot be interpreted mechanically: market shares *may shrink for reasons wholly unrelated to managerial failure and expand in the absence of managerial excellence.* Moreover, difficulties of measuring them obscure and delay recognition of those changes that have occurred.

The major weakness of market-share measurement as a managerial tool is that it explains nothing and does not indicate how a defective situation might be corrected or how management might capitalize on a success. On the other hand, when used in conjunction with other information about the market and studied in individual localities, market-share changes can be extreme-

ly illuminating. Detailed analysis of individual markets, of the type described here, is laborious and very time-consuming. It also requires considerable skill and diligence. It offers very great rewards, however, by expanding vastly the empirical base for executive decision-making in the marketing field.

50 / *The values and uses of Distribution Cost Analysis*

American Marketing Association Committee on Distribution Costs and Efficiency

The major challenge confronting marketing management is that of matching marketing effort with market opportunity. Distribution cost analysis plays an important part in evaluating such an effort.

The following statement by a special committee of the American Marketing Association on the nature and values of distribution cost analysis for staff and line executives in marketing and related areas describes the usefulness of this technique.

PREFACE

THIS statement has been prepared for senior marketing and general management executives in industry who have not yet become acquainted with the new tools and techniques of distribution cost analysis developed in recent years and proven valuable in attaining and maintaining a high level of marketing efficiency. It is directed equally to senior accountants and to marketing research managers who need a concise statement describing the nature and values of distribution cost analysis for the benefit of their associates, their clients, and their employees. Finally, it is directed to those students of marketing and accounting interested in identifying the newer areas of opportunity in their fields which may warrant their more concentrated attention.

The statement has been prepared by a special committee of the American Marketing Association selected for this purpose. The membership of this committee and a few notes concerning their experience and qualifications in this field appear on the final pages.

INTRODUCTION

A principal objective of the American Marketing Association is to foster the development of more efficient marketing. To this end, the Association maintains several standing committees which are assigned to follow and appraise developments in a number of different technical fields.

One of these committees, the Committee on Distribution Costs, recently

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undertook to appraise the values and applications of distribution cost analysis. This is its report.

THE ROLE OF DISTRIBUTION COST ANALYSIS

As the total production of goods and services has expanded in the United States, our distribution system has become increasingly complicated. For this reason, distribution costs have tended to rise, and the achievement of greater distribution efficiency has become an increasingly important objective for more and more forward-looking companies.

When a company succeeds in increasing its distribution efficiency, it is able to make more goods available to more people at lower prices. Increased efficiency on the part of one company, therefore, puts pressure on its competitors to improve their distribution operations. By helping individual companies to increase their distribution efficiency, distribution cost analysis helps to promote a sounder economy under our free enterprise system.

DEFINITION OF DISTRIBUTION COST ANALYSIS

Distribution cost analysis is the assembling of the various items of distribution cost into meaningful classifications and their comparison in this form with alternative expenditures and with related sales volumes and gross margin. More specifically, it is a technique used by individual business concerns for the determination of the costs of performing specific marketing activities and for the determination of costs and profits for various segments of the business such as products or product groups, customer classes, or units of sale—and a study of these findings in the light of possible alternatives.

THE VALUES AND USES OF DISTRIBUTION COST ANALYSIS

Distribution cost analysis may be used by businessmen as an aid in determining profitable objectives for the business, in setting policies and procedures of operation, in determining the efficiency of their organization, and in measuring the profitability of operation in individual segments of the business.

More specifically, distribution cost analysis may be used:

1. To determine the kinds and amounts of expense incurred in each separate marketing activity such as outside selling, billing, warehousing, and delivery.

Availability of such cost data permits effective assignment of responsibility for cost performance to specific individuals supervising the activities. They make it possible also to trace the reasons for changes in cost over a period of time or variations in cost from budget, and the detailed record provides a basis for corrective action. They open the way to development of standard costs where standards are feasible.

2. To evaluate marketing methods, policies, and operating procedures.

Distribution cost analysis provides basic data for appraising the value of services (such as credit or delivery), methods of sale (by telephone, mail, or personal solicitation), and company performance of functions as opposed to use of outside organizations (for delivery, warehousing, and the like). It facilitates judgment as to when and where agents, distributors, or other middlemen will be more economical than direct sale.

3. To determine the marketing cost and profitability of the company's various products or customers.

Cost analysis permits calculation of these facts for individual products and customers or for such groups of them as product lines, brands, styles and sizes, classes of trade, sales territories, and the like. Such data are useful, too, in estimating costs and profits for proposed products or for changes in product or customer mix.

4. To determine the relationship between cost and order size—as a basis for diminishing losses on small orders and as a basis for quantity-discount schedules conforming to the Robinson-Patman Act.

Any general use of distribution cost analysis by businessmen for the appraisal of marketing structure, policy, and plans would have significant economic implications. The effect would be to increase the general level of marketing efficiency. Competition, in turn, may be expected to transfer much of the economy gained to the public through lower prices. Thus, widespread use of distribution cost analysis would be the equivalent of a general technological advance in industry. The reduction in unit costs and increase in efficiency from use of distribution cost analysis may be even greater than that attained as a result of the pioneer work in time and motion studies and cost accounting in the factory.

THE METHODS OF DISTRIBUTION COST ANALYSIS

There are two basic steps in distribution cost analysis: (1) the determination of the cost of performing each distribution activity or function of the business and (2) the determination of the costs of these functions which are associated with products, customers, territories, or other segments of the business.

Functional Cost Determination

This step requires first a detailed analysis and listing of the many distinct marketing activities carried on by the business. Because companies vary widely in the kinds of marketing work done, the lists of activities will vary greatly from company to company. Each company must prepare its own list of activities on the basis of a careful study of the exact work done.

Cost records must then be set up in such a manner that all direct and indirect costs incurred for each separate activity are identified. Some costs are incurred simultaneously for two or more activities. In such cases it is

necessary to apportion the jointly incurred cost to the individual activities. This can be done by means of time study, space measurements, counts, managerial estimates, and other methods. It is most expeditious, economical, and accurate to determine functional costs currently as part of the ordinary accounting process, but it is possible to determine these costs at a later date.

A functional classification of marketing costs has a number of advantages even though the analysis proceeds no further. A functional classification of marketing costs reflects and parallels the organization of the business and the responsibilities for expenditure. Accordingly, a functional classification facilitates control of marketing expenditure. (The classification of costs by function permits attainment of the first two objectives listed under Values and Uses of Distribution Cost Analysis above).

Determination of Costs for Segments of the Business

The many marketing activities of a business are undertaken to permit handling and sale of the company's various products to its various customers in its various territories. There is thus a direct relationship (in most cases) between the scale and cost of each activity or function and certain characteristics of the products handled and the customers served. The second step thus involves determining just what these relationships are and expressing them quantitatively.

A knowledge and measurement of these direct relationships between functional costs and characteristics of products handled or customers served permit allocation of an appropriate share of each activity's cost to individual products and customers and other segments of the business. When this is done for all costs, it is possible to determine the total marketing costs attributable to specific products and customers. Thus, after costs have been classified by activities or functions, they are allocated on the basis of utilization by products, customers, and other segments of sales of the activities giving rise to these costs. For each functional-cost group, an allocation factor must be selected which can serve as a measure of the portion of that cost which is properly applicable to each segment of sales. The procedure followed is to charge the product or customer (or other segment of sales) with the cost of its share of the activity of each functional-cost group; that is, the cost of the portion of the marketing effort for which it is "responsible."

Some analysts hold that it is not useful to charge any cost to a specific product or customer unless there is a clear causative relationship between the product or customer characteristic and the cost total. They point out that functional-cost groups vary in the extent to which they can be directly associated with product or customer characteristics. They say that these costs cannot be charged to individual products or customers but must be treated as overhead. The question still remains, however, as to the method of absorbing overhead by each segment of sales. If all overhead is not absorbed, it will not be possible to show net profits by products or customer

classes. Without these net profit figures, it is difficult to make full application of the results to management decisions.

Management use of these cost figures begins with a comparison of totals and of the detailed cost patterns of handling the various products and customers. Such a study is still more valuable if total gross margins for each product and customer are determined. Total costs may then be subtracted from gross margins to reveal net profits or losses.

Profit results for individual customers may be added together to show profits by sales territory, by channel of distribution, by customer size, or other groupings. Similarly, product profit results may be added together to show profits by brand, by price line, by style, or other product groupings.

Analysis of the data presented for products and customers and other segments of sales discloses basic reasons underlying profit or loss results and suggests types of corrective action. These may include efforts at expansion or contraction of certain products or of sales to certain customers or substitution of some products or customer classes for others. They may also involve proposals to eliminate classes of business. The latter proposals must be studied in the light of the short-run and long-run variability of the costs incurred in handling this business as shown by the detail of costs charged to it.

Measurement of relative profitability of segments of sales, based on a determination of costs associated with these segments, can help management to resolve marketing-oriented problems involving a choice between alternative decisions.

POSSIBILITIES OF USE: LIMITATIONS

A technique still relatively new, as is distribution cost analysis, always has far more opportunities for use than have been realized. That it is not used at all by some firms, and is used by others only infrequently as a special research project, is due for the most part to this newness. In part, however, it is due to natural limitations.

Certain conditions should exist in order for the values and uses of distribution cost analysis to be realized. Some degree of specialization of personnel *or* some variety of products *or* some complexity of operation must exist, for otherwise costs come in lumps that cannot be broken apart satisfactorily. Specialization and complexity are not necessarily closely correlated with the size of the operation. Some opportunity to change operating policies or procedures must exist so that facts uncovered can be utilized successfully. Some realization by management of the need or benefit of cost control or functional control or standard costs is needed to support and utilize the analysis. In addition, some understanding of the techniques of cost analysis and ability to interpret results are necessary conditions.

Another important limitation and variable is the available accounting data.

Although even a rudimentary accounting system can provide the basis for a study, the cost tends to be higher, and accuracy—though still acceptable—suffers. Accounting procedures should provide details on sales, cost of sales, and gross margin, which permit classification by products, customers, and salesmen. Allocation data—such as number of orders, salesmen calls, and invoice lines and value of average inventory—also are best provided by regular accounting procedures, not by special, supplementary studies. Current accumulation of expenditures into functional-cost groups not only facilitates cost studies but also provides improved cost control. Decisions must be made as to whether, and how much of, the gathering of sales analysis and allocation data shall be a part of regular accounting processes (either manual or machine) or will be gathered "after the fact" and at infrequent intervals. Practical decision also must be made as to use of simplified methods or more detailed methods which yield maximum accuracy. A great deal of flexibility exists on this score within the limits of useful and practical results.

The amount of detailed calculations required for formal cost analysis makes it a forbidding task for firms without an adequate analytical staff. This limitation may soon be removed by the potentialities of the new electronic computers. The actual computations of even a major cost analysis would take only a few hours on one of the large computers now available for hire. In the future, the role of the distribution cost analyst may be limited to specifying the data to be collected, programing the computer for handling these data, and interpreting the results.

THE STATUS OF DISTRIBUTION COST ANALYSIS AND REQUIREMENTS FOR ITS FURTHER DEVELOPMENT

The rapid development of distribution cost analysis during the past thirty years reflects the growing interest of business management in the problems of measuring and controlling marketing costs and efficiency. This interest has been sparked by the increasing complexity of our national distribution system and the resulting pressures on individual companies to improve their distribution efficiency to maintain profit margins.

The methods of distribution cost analysis have now been developed to a point where most of the major problems in the field can be soundly approached when existing techniques of analysis are properly applied. As distribution grows more complex, and as further research is completed, new and improved methods will undoubtedly be developed. Methodology, however, is no longer a factor that seriously restricts expansion of the field.

Rather, growth in the use of distribution cost analysis seems to hinge primarily on the number of personnel who are qualified to make skilful use of existing distribution cost analysis techniques. The opportunities for this application appear to be expanding faster than the number of trained personnel. This poses the question—what steps should be taken to overcome the present shortage of trained personnel?

To this end, it is suggested that collegiate instruction in distribution cost analysis be substantially increased, both at the undergraduate and graduate levels.

It is further suggested that trade and professional associations interested in the field of business administration place greater emphasis on distribution cost analysis in their programs. Printed literature based on the resulting articles, speeches, and discussion sessions will not only serve to broaden the interest of business personnel generally in the subject but will also help to increase the quality of the instruction received by students.

Finally, it is suggested that marketing and accounting people make an effort to become more fully conversant with the mutual problems they have in developing and applying distribution cost figures. Marketing men too often are inadequately informed concerning the principles, practices, and problems in accounting which underlie cost records. On the other hand, accountants too often are ill-informed on the practical problems of marketing and the assistance which accounting can render in solving them.

One final point . . . government recognition of the validity of distribution cost analysis as a basis for developing admissible evidence in litigation will help to increase the stature of the field and broaden still further the application of distribution cost analysis.

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51 / *The Marketing Audit : Its Nature, Purposes and Problems*

Abe Shuchman

The control and reappraisal step in the administrative process needs to be formalized to make certain that the proper information is available. One way of doing this is to conduct a marketing audit. Few firms appear to realize that such a periodic review is as important as a financial audit. The author of this article discusses the basic purposes of a marketing audit, when to audit, who should audit, and the impact of the audit on marketing personnel.

The notion of an audit—a periodic review and appraisal of a business activity—is familiar to all executives. In most companies, financial audits to establish the adequacy and accuracy of accounting and financial operations are accepted practice. Periodic inventories for the evaluation of physical assets are also commonplace. In addition, many firms today make periodic reviews of the records and achievements of all employees, and there is evidence that such "personnel audits" are fast becoming standard practice.

In recent years there has been increasing awareness that the future growth—indeed, the very survival—of most companies depends primarily upon the success of their marketing operations. There has been widespread recognition of the central and critical role of marketing activities in the shaping of a firm's destiny. It has not, however, been generally recognized that, because marketing operations are of such crucial importance, it is necessary to apply to these operations a type of stock-taking analogous to that currently applied to financial and personnel activities. Very few firms have yet come to realize that a *marketing audit* is as essential as an audit of the company's books, physical assets, or employees.

NATURE OF THE MARKETING AUDIT

Most marketing executives would probably deny indignantly that they do not recognize the need for auditing the operations which are their responsibility. They would insist, in fact, that they are *constantly* evaluating these operations—and they would probably be right. Within every modern marketing organization, evaluations of many different kinds *are* constantly being made. It is important to recognize, however, that not every marketing

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evaluation is a marketing audit. Neither, except very rarely, does the sum of all the evaluations currently being made equal a marketing audit.

Some Distinguishing Characteristics

There are a number of reasons for asserting that current appraisals do not, either singly or as a group, constitute a marketing audit. The principal reason, however, is that they are far too limited in scope. Executives review and appraise the effectiveness of the field sales force, the advertising program, the company's product mix, and the like, but they evaluate each of these elements at different times, and in no planned or coherent pattern. They do not, within a specified interval, examine each and every facet of the *total* operation. There is no integrated, coordinated, comprehensive appraisal encompassing all marketing activities and executed systematically in accord with a planned program and schedule. Yet the principal characteristic of the marketing audit is that it *is* such a systematic and comprehensive survey and evaluation of the total marketing operation—a programed appraisal of *all* of the activities included within the marketing function.

Current appraisals are much more limited than the marketing audit in another respect. They are, in general, confined to the review and evaluation of performance, methods and procedures, and personnel, concentrating on the manpower and tactics used and the results achieved within a given framework of objectives and policies. Rarely is the framework itself subjected to systematic and critical analysis and appraisal.

Now a marketing audit is, to be sure, an appraisal of performance and tactics—of methods, procedures, personnel, and organization. Beyond this, however, it is a great deal more. In fact, its principal focus is on those elements of the marketing function which are almost never subjected to careful, regular, and orderly scrutiny but which are of fundamental importance because they comprise the base from which methods, procedures, and organization are derived. In short, the marketing audit is primarily a re-examination and evaluation of marketing objectives and policies—an appraisal not only of a company's marketing program but also of the framework which has given the program its direction, structure, and shape.

The preoccupation of the marketing audit with objectives and policies is one of its most salient and distinguishing characteristics, for it implies that, unlike other appraisals, the audit is a searching inquiry into the character and validity of the fundamental premises underlying a company's marketing operations. It is a review and evaluation of the assumptions, conceptions, and expectations that guide executives in their planning and operating decisions. It is a planned effort to test and assess executive beliefs and opinions about the character of the market, the company's position in the market, the company's objectives and capabilities, and the effectiveness of the various policies, methods, personnel, and organizational structures which are or might be employed.

As Wroe Alderson of Alderson Associates, Inc. has observed :

> The marketing executive may be visualized as operating on the basis of a sort of map. There are boundaries or limits marking off the class of customers he is trying to reach or the trade channels through which he is willing to sell. There are routes over which he can move in attaining his objectives which experience or investigation has indicated are better than other routes. This map may have to be brought up to date by a validation or a revision of operating assumptions . . .[1]

In this context, the marketing audit becomes essentially an effort to step back and take a penetrating look at the basic ideas which are the ultimate source of a company's marketing programs. It is an attempt to explicitly define and verify these ideas about the company, the market, and methods of reaching the market by testing them against current and accurate information.

The Basic Purposes

The marketing audit may thus be defined as a *systematic, critical, and impartial review and appraisal of the total marketing operation : of the basic objectives and policies of the operation and the assumption which underlie them as well as of the methods, procedures, personnel, and organization employed to implement the policies and achieve the objectives.* This definition, however, is not complete. It conveys no sense of the purpose of the audit, as it should, for it is important to understand that the audit is a prognostic as well as a diagnostic tool—a search for opportunity as well as for malfunction.

Too many executives take a static view of appraisals. In examining the marketing operation or one of its component activities, they are concerned almost exclusively with them here and now. They are intent on identifying *existing* problems or weaknesses and discovering their causes, so that appropriate remedies can be applied. A marketing audit, too, aims at locating existing weaknesses, at pinpointing current problems and their sources. Like other types of evaluations, therefore, the audit too is a diagnostic tool. But diagnosis is not the only, or even the most important, purpose of the marketing audit. It is concerned as much with the future as with the present. It is a search not only for weaknesses that clearly exist but also for those that may arise. It is aimed at identifying current problems and determining their causes, but at the same time it probes for incipient problems—those just beginning or likely to emerge. This is what we mean when we say that the marketing audit is a prognostic as well as a diagnostic tool.

Executives tend also to conceive of audits almost exclusively as means for locating and defining problems. The identification of problems and possible remedies is, however, only one of the purposes of the marketing audit. The audit is, in addition, concerned with identifying the particular strengths of the marketing operation. It is a search for opportunities, existing and potential, to apply the factors which create strength in one marketing activity to

[1] Wroe Alderson, *Marketing Behavior and Excutive Action* (Homewood, Ill.: R. D. Irwin, Inc., 1957), p. 419.

others. And it is a search for opportunities in the market which had previously been overlooked or which have only recently emerged.

Thus, the marketing audit has several purposes. It is intended to reveal potential as well as existing strengths and weaknesses in a company's marketing operation, and it is intended also to bring into sharp focus possibilities for capitalizing on the strengths and eliminating the weaknesses. In consequence, the marketing audit is a tool that can be of tremendous value not only to the less successful, crisis-ridden company but also to the highly successful and profitable industry leader. No marketing operation is ever so good that it cannot be improved. Even the best can be made better. In fact, even the best *must* be made better, for few, if any, marketing operations can remain successful over the years by maintaining the status quo. Continued success requires continual adaptation to a constantly changing environment. It requires, therefore, continual scrutiny of the environment and of the firm's relationship to the environment, with the aim of spotting the cues which indicate both a need for modifying the firm's marketing program and the direction such modification should take. It requires an unremitting search for emerging opportunities that can and must be exploited if the marketing operation is to remain highly successful. The marketing audit, therefore, is not only a prescription for the sick firm but also preventive medicine for the currently healthy and successful firm.

A Total View

To summarize, then, the most prominent characteristics and most important purposes of the marketing audit are these :

It is a carefully programed appraisal of the total marketing operation.
It is centered on an evaluation of objectives and policies and of the assumptions which underlie them.
Its aim is prognosis as well as diagnosis.
It is a search for opportunities and means for exploiting them as well as for weaknesses and means for their elimination.
It is the practice of preventive as well as curative marketing medicine.

WHY AUDIT—AND WHEN?

Every marketing executive recognizes that he operates in a highly fluid environment. He is fully aware that unceasing change is the most salient characteristic of his company's marketing situation. He knows that there is constant and continuous—sometimes even abrupt and dramatic—change in the size, composition, and geographic distribution of the population; in the size and distribution of incomes; in tastes, preferences, and habits; and in technology. He has, in short, absorbed the truth that has so often escaped other executives: The modern market is highly dynamic.

Unfortunately, recognition of the dynamic quality of the market has not

Keeping Abreast of the Times

led marketing executives to recognition of all its implications. Many executives have not yet fully realized that continual flux in the market signifies continual alteration of the relationship of a company to its market and of the competitive relationships between companies, and that such constant and widespread change in the environment makes some facet of almost every existing marketing operation obsolete. As Arthur Felton has described the situation in the *Harvard Business Review* :

> There is probably no marketing plan in industry today that is not out of date.... The reason is that there are so many constantly changing factors in any company's marketing situation that it is practically impossible to keep revising a plan so rapidly and so accurately that there is no lag in it. The factors that keep a plan dated are not only those of the "changing American market" which *Fortune* and other publications have discussed—suburbia, the new middle class, the Negro market, etc. The dating factors have also to do with changing selling problems growing out of the major upheavals—shifts in consumer psychology that necessitate different kinds of advertising and packaging, trends in distribution that affect the company's relations with wholesalers and jobbers, changes in the "customer mix" that affect the efficiency of the sales organization, and so on.[2]

The significance of market dynamism, then, is that a firm's marketing operation tends continually to fall out of phase with current conditions and incipient trends. Elements of every marketing program are always losing their effectiveness. Methods, procedures, and organizational structures rapidly become outmoded, and objectives and policies become inappropriate as the validity of the assumptions on which they are based is destroyed. The continual change in a company's marketing situation means, in fact, that no marketing program is ever completely and precisely adapted to the environment in which it is executed; indeed, it means that every program becomes ever more poorly adapted with the passage of time. This is evidenced by the fact that, almost from the moment a marketing program takes effect, a drift away from the program commences which accelerates as time goes by. This drift arises from the efforts of managers and their subordinates to cope with the many specific problems engendered by the lack of adjustment between the marketing program and the changing marketing environment. It is symptomatic of the inability to be always in perfect tune with the times. It is also dangerous if not arrested, for the drift implies that the planned marketing operation is degenerating into a patchwork of opportunistic and expedient actions. It implies that confusion and even chaos increasingly supplant the originally integrated and coherent plan for the application of marketing effort. In time, therefore, unless the marketing operation is revamped—unless objectives, policies, methods, procedures, personnel, and organization are once again combined in a carefully articulated plan which is better adapted to the company's current marketing situation—the drift and its accompanying confusion will almost certainly precipitate a company crisis.

[2] Arthur P. Felton, "Conditions of Marketing Leadership," *Harvard Business Review*, March-April 1956, p. 119.

Thus, the dynamic quality of the market implies a need for constant vigilance on the part of marketing executives. It compels recognition of the need for awareness of the nature of the changes taking place within and without the firm, and of the directions in which the marketing organization and program can be and must be modified in order to adapt to these changes. It emphasizes the need for improvement-consciousness, and thus for a continual search for new cost reduction possibilities and new sales opportunities. In other words, the rapid pace of change in our modes of living and the continually accelerating technological revolution in industry make it imperative that the marketing executive appraise and reappraise every element of his operations and organization. Moreover, if the executive wants the best results from these appraisals he must *plan* them, for only a systematic, careful, and orderly program of appraisal can assure that no activity or element of the marketing operation is neglected or subjected to only the most cursory examination. It follows, therefore, that the marketing audit is a necessary and important tool which can provide a marketing manager with the knowledge required to keep his operations abreast of the times and thus in a strong competitive position.

Auditing Under Crisis Conditions

Many executives who recognize the effectiveness of a marketing audit seem to believe that it is needed primarily by companies which are problem-ridden and which face a deteriorating market and profit position. They regard the audit as an effective remedy for a marketing operation which is in critical condition. Such a conception of the audit is entirely erroneous, however, for, as we have already noted, the audit is preventive as well as curative marketing medicine. Nevertheless, this conception of the audit is so widespread that it may be worthwhile to give some reasons for believing that it is wrong.

Executives who conceive of the marketing audit as being unnecessary for a smoothly functioning, highly successful marketing operation have really failed to understand fully its nature and purposes. They fail to see, therefore, that appraisals made in an atmosphere of crisis are unlikely to have the character of a marketing audit. This is true for two reasons :

1. In a crisis situation there exists a compulsion to do something quickly which will resuscitate the marketing operation before it reaches a point of no return. Under crisis conditions, therefore, the aim of an appraisal must be to find an appropriate stimulant rather than a basic therapy. As a result, such an appraisal inevitably assumes the nature of a rapid scanning rather than a penetrating look at the marketing operation; and even this scanning is limited to those facets of the operation which experience and intuition indicate are most likely both to require attention and to respond quickly to treatment.

2. Since a crisis in a company's marketing operation often means that the company is experiencing financial difficulty, any appraisal undertaken at such a time will almost surely be allotted far less money than is required to do the job properly.

Thus, both for financial reasons and because of the need for haste, an ap-

praisal under crisis conditions is likely to be far more superficial, far more limited in both scope and depth, than a true marketing audit.

Auditing the Successful Operation

The smoothly running and successful marketing operation can, therefore, be more effectively audited than a sick operation. More important, however, is the fact that it *needs* to be audited. Success tends to foster complacency, laxity, and carelessness. It permits tradition and habit to become the dominant shapers of marketing programs. It allows dry rot and excessive costs to develop and spread. It leads some marketing executives to become so deeply involved with existing policies and methods that they never bother to examine the possibility of performing the marketing task in other ways—ways which, although once inappropriate, may now be more closely attuned to the company's needs. Yet none of these well-known concomitants of success may be immediately apparent. A successful operation can move along well, for a time at least, propelled by the momentum which has been generated in the past. The growing waste of marketing effort and the increasing frequency of failures to pioneer innovations are not reflected at once in shrinking profits and market share. Their effect is delayed, for marketing wastes and failures erode rather than shatter the company's market position. Sooner or later, however, the erosion of market position must find expression in reduced volume and profits—and, when it does, the "healthy" marketing operation appears suddenly to have contracted a very severe illness.

The dangers of success clearly suggest that in marketing as in home maintenance the time to fix the roof is when the sun is shining. They point clearly to the need for continual, systematic, critical, and objective appraisal of even the most successful marketing operation *while it is successful.* The negligence and waste, the complacency and blind obedience to tradition and habit which breed so easily in the culture of success can become extremely noxious viruses if permitted to develop unchecked. They can appear anywhere in a marketing organization, and they can in time sap the strength of the most vigorous marketing operation. The maintenance of health and vigor in the operation requires, therefore, that such factors be identified and eliminated just as soon as they appear. The marketing audit serves this end. It is, consequently, of considerable importance to the successful marketing organization, for it constitutes a kind of insurance against subversion by success.

SOME PROBLEMS OF AUDITING

The dynamism of the market and the awareness that continued success may have undesirable by-products point to a general need for marketing audits. They strongly suggest that every marketing operation can be improved through a systematic and comprehensive program of evaluation. Such

a program of evaluation is not likely, however, to be executed without difficulty. It may be helpful, therefore, to indicate the nature of some of the more important difficulties that are likely to be encountered.

Some of the problems that will arise as an executive seeks to inaugurate and execute a marketing audit are of such moment that they have been treated more fully than is possible here by other contributors to this volume. The problem of defining appropriate standards or criteria for each marketing activity and each element of each activity which are valid and operational measures of effectiveness is an example. Other problems, such as that of obtaining the funds needed to pay for a full-scale audit, are so obvious that they require little more than mention. In addition to these problems, however, there are three others which merit attention. These involve (1) the selection of auditors; (2) the scheduling of the audit; and (3) the impact of the audit on marketing personnel.

Selecting the Auditors

No audit can be better than the people who make it. Consequently, no audit will yield the benefits that it is possible to obtain unless it is made by the right kind of people. As is implied by the definition of the audit, such people must be not only critical and impartial but also knowledgeable and creative. They must not be so involved with or "married" to existing policies and procedures that they cannot really be critical and objective in their assessments. In addition, they must possess the experience, know-how, and creative imagination needed to recognize problems and opportunities that are just beginning to appear on the horizon of the company's marketing situation and to define feasible courses of action for solving the problems and exploiting the opportunities. Finding enough such people to staff the audit can be a tall order. Few companies have an abundance of men with these characteristics. The quality of the audit is, nevertheless, determined largely by the extent to which the auditors possess these characteristics, and successful solution of the staffing problem is therefore of singular importance.

Scheduling the Audit

Since the marketing audit is an evaluation of the total marketing operation, it cannot be properly executed in a matter of days or weeks; it must be a relatively long-term project. And, as in any long-term project, there is always the danger that distractions may intervene to delay execution or that interest in the audit may be dissipated, with the result that the audit drags on and on. If the audit is permitted to drag on, however, conditions within and without the firm may change to such a degree that the findings when reported describe the marketing situation as it *was* rather than as it *is*. Any modification of the marketing operation on the basis of such findings could, of course, impair rather than improve the operation. Clearly then, the audit, if it is to yield accurate information about the company's current

marketing situation, must be executed in accord with an established time-table. Preventing the many deviations from the time-table which can easily be rationalized is a central problem of any marketing audit.

Impact upon Marketing Personnel

The success of a marketing audit requires the full cooperation of all marketing personnel, from the chief executive and department heads to the salesmen in the field. The evaluation of an activity for which one is responsible, however, is often regarded by those carrying on the activity as a personal evaluation. These people often perceive in the audit a threat to their status and aspirations, and they therefore tend to resist it. They do not necessarily refuse to cooperate, but they may attempt to sabotage the audit wherever they feel it is possible to do so with impunity. Their resistance may make it extremely difficult—if not, in fact, impossible—to obtain accurate information. Moreover, the feeling that they are being threatened may impair their morale and reduce their effectiveness on the job.

It is extremely important to be aware of these possible side-effects of the audit so that pains are taken to obviate them through precautionary measures. Every effort must be made to create a genuine appreciation of the fact that the audit is not a fault-finding expedition but a search for ideas and tools that will enable everyone to do a better job. Marketing personnel must be educated to the fact that the audit is a management tool used to "help us help you" and not a device for "getting" anybody. They must be convinced that the audit is a full-scale effort to provide everyone in the marketing organization with important information that could not possibly be obtained through normal channels and routines. Before inaugurating a marketing audit, therefore, the possibilities of resistance and lowered morale must be dealt with through an educational campaign within the marketing organization.

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Change is a dominant fact of life. It is also a dominant consideration in planning and executing marketing strategies and programs. In fact, appropriate and timely adaptation to change is the key to marketing success. Such adaptation requires appraisal and reappraisal of the total marketing operation to insure that inefficiencies are detected quickly and opportunities recognized as they appear. The marketing audit, if executed properly and in the proper atmosphere, can insure management against the inertia and astigmatism which retard growth and may even bring destruction. No marketing executive can escape the need, therefore, for giving serious consideration to the inauguration of a program of periodic marketing audits.

52 / *Mathematical Programing*

CHARLES H. SEVIN

Distribution costs are almost always an important item in the budget of most firms. This article demonstrates how through the use of mathematical programing, in conjunction with distribution cost analysis, both sales volume and net profits can often be increased substantially.

One of the most difficult marketing problems is the proper allocation of effort. Indeed, the evidence indicates that in a large majority of companies marketing effort is grossly misallocated. The most effective tool in dealing with this problem is mathematical programing, especially if used in conjunction with data from a distribution cost analysis. Mathematical programing can virtually guarantee an increase in both sales volume and net profits.

So far, however, there has been little management appreciation of the striking achievements made in reducing unit distribution costs with these quantitative methods. This should not be too surprising if we keep business history in mind. I suspect, for instance, that when time-and-motion studies, cost accounting, and the principles of "scientific management" were first being developed in the factory, skepticism greeted the announced results of greatly increased output and reduced unit cost. Now, however, scarcely anyone would question the very great achievements in the way of increased output per man-hour and reduced unit factory costs made since the 1880's when Frederick Taylor developed the concept of scientific management. It is significant that one does not often encounter today the question, "Does Production Cost Too Much?" But the question, "Does Distribution Cost Too Much?" is raised frequently, and a great many businessmen are very sensitive about it.

The difficult environment in which marketing operations are performed —the "unpredictable behavior" of the consumer in the market place, the "human equation" involved in the interaction between salesman or advertising and the prospective customer, and so forth—is, of course, the well-worn excuse for not using "scientific management" as much in marketing as in production. Yet marketing has certain characteristics which make it extremely profitable to use advanced methods of quantitative analysis. It is, in fact, hard to exaggerate the opportunities for increased efficiency.

In most businesses a small proportion of the territories, customers, orders,

SOURCE : From David W. Ewing (ed.), *Effective Marketing Action* (New York : Harper & Row, Publishers, Inc., 1958), pp. 127-138. Copyright 1958 by the American Marketing Association : reprinted with permission of Harper & Row, Publishers, Inc. Charles H. Sevin : Senior Consultant, Alderson & Sessions.

or products are responsible for the overwhelming bulk of the sales volume. Conversely, a very large proportion of the customers, orders, products, territories, and so on bring in only a very minor proportion of the sales. Even the better-managed firms do not usually realize just how much of their marketing effort brings in only very small sales returns, since it is difficult to find out which sales can be ascribed to any specific outlay of effort. Indeed, most firms make no systematic attempt to evaluate the results of marketing effort for specific sales segments of their business and usually measure organizational performance solely by *total* dollar sales.

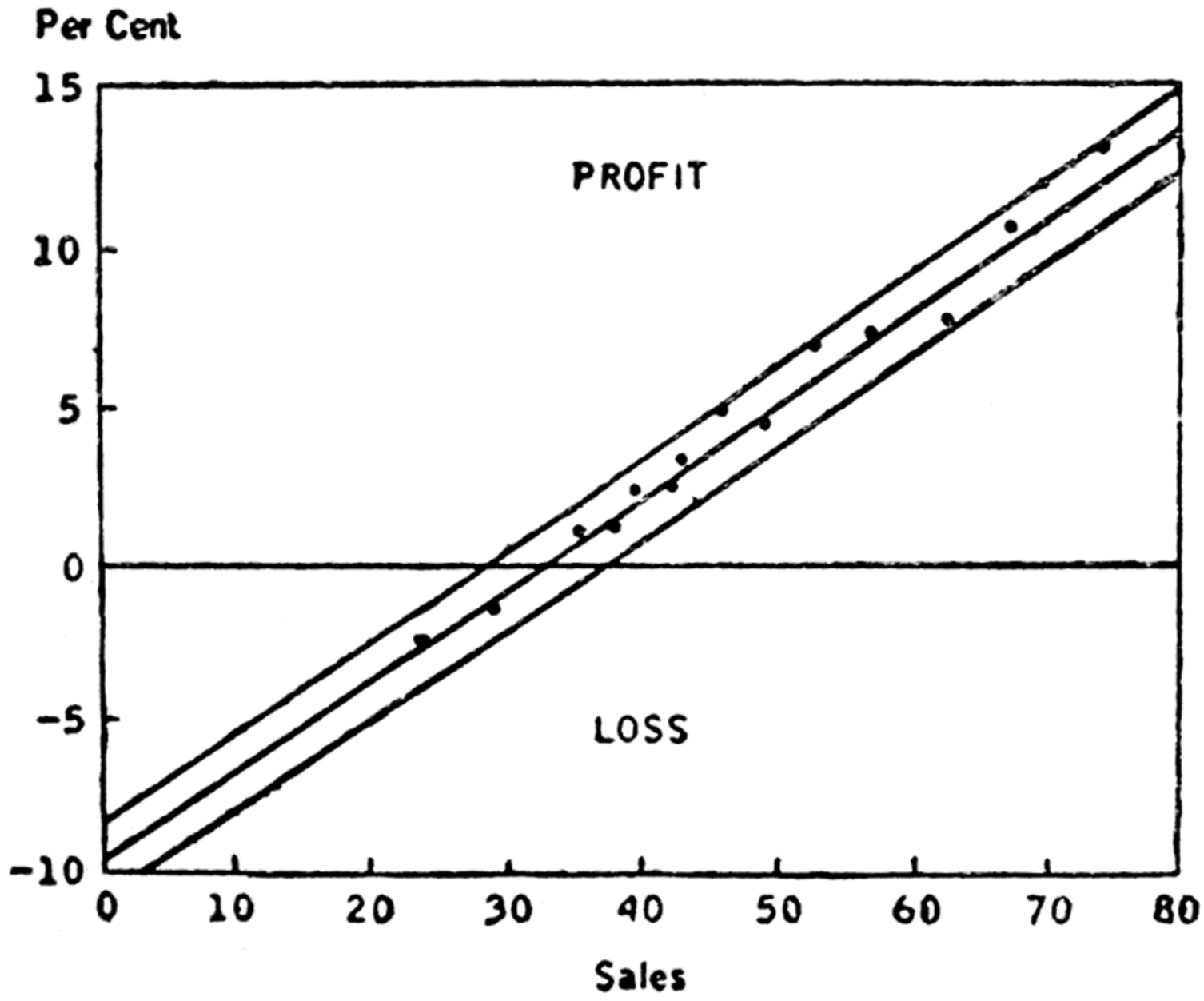
Careful comparison of the costs and returns from the different units of the firm's marketing effort by means of distribution cost analysis will usually reveal that, because of all this, a large number of sales made by the individual firm are unprofitable even though the business as a whole shows a profit.

How can management go about learning such facts? Just what can it do to reduce costs and increase profits? To answer these questions, let us work through a specific problem. The situation I shall construct is like others that I have worked with in the past.

ANALYZING COST BEHAVIOR

We begin with certain figures on profit, sales volume, costs, and other items. Our first step is to determine how profits and costs—both manufacturing and distribution costs—vary with changes in sales volume. This, of course, is not a simple job, because in addition to changes in output there

Exhibit I Relation between Profit Margin and Sales Volume

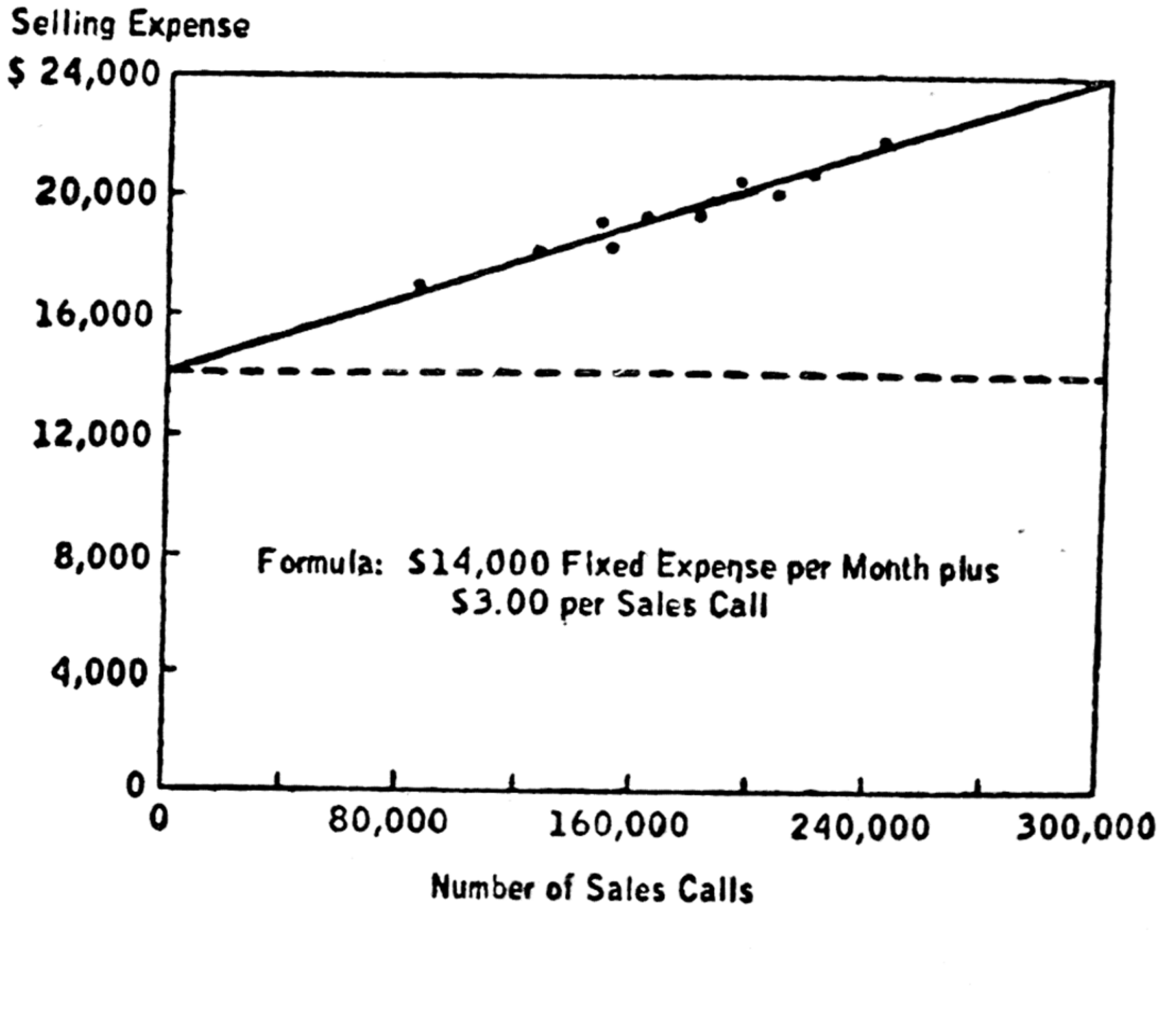


are always other variables—such as changes in wage rates, cost of materials, and efficiency—which affect our unit costs and total profits. However, we can make approximate adjustments for these factors that are accurate enough for our purposes. And we can chart month-to-month changes in our profits and costs as related to corresponding changes in our volume. The latter are shown in Exhibit I.

Of course, increasing sales generally bring increasing profits, and decreasing sales generally bring decreasing profits. Sales are measured on the horizontal scale, profit margin after variable costs (but before deducting fixed costs) is measured on the vertical scale. Each dot on the chart represents the percentage profit margin and the corresponding sales volume for one month. After we have adjusted for other factors (such as changes in wage rates), these dots follow a definite pattern and are grouped closely about the diagonal line, which we call our "normal" profits margin for any given sales volume.

Likewise, we can draw a graphic picture of the "normal" relationship of each important functional category of cost to some measure of output (not necessarily sales) to which it is related. For example, Exhibit II shows the relationship of total field selling expense to total number of sales calls. In other charts (not shown) we can plot the relationship between office payroll expense and the number of invoices, the relationship between indirect and direct production labor cost in our punch-press department, and so on. Obviously, the measure of activity is related to the nature of the work done. In charts like Exhibit II diagonal lines reveal several significant facts about

Exhibit II Relation between Number of Sales Calls and Selling Expense



the behavior of our costs. For one thing, we can separate the variable element of each cost from the fixed element. This is important because we cannot find the amount of fixed expense simply by inspecting the usual accounting classifications, with some costs being labeled "variable" and others labeled "fixed." Many of the standard expense accounts, we learn, contain unexpected amounts of nonvariable expense which can be discovered only by an analysis like that summarized in Exhibit II.

The point at which the diagonal line cuts the vertical scale shows the approximate amount of the fixed element contained in each expense, because this point indicates the level of expense when the amount of the output or activity to which it is related is zero. Thus, in Exhibit II the nonvariable selling expense is $14,000 per month. That is, even if not a single sales call is made, our stand-by or fixed selling expense would normally approximate $14,000 per month.

Furthermore, the "slope" of the diagonal line, or the angle which it makes with the horizontal in each chart, indicates the variable cost per unit of activity or output. For example, Exhibit II shows that the variable selling expense equals about $3 per sales call.

The foregoing is just the first step. We go on to make a distribution cost analysis by channels of distribution (and byproducts). This reveals wide differences in profitability between various sections of total sales. We apportion the variable components of all distribution costs among the four channels of distribution on this basis.

Selling	Number of sales calls
Office	Number of invoice lines
Warehousing and shipping	Number of cases handled
Delivery (trucks)	Number of deliveries

Note that these categories are the same as those earlier mentioned when we related the totals of the various distribution costs in order to separate their variable and nonvariable components and to get the variable unit costs.

By adding up the distribution costs allocated as above, we can now obtain the total variable costs by channels of distribution.[1]

PLANNING CHANGES

Our next step is to analyze sales by channels of distribution and to deduct total variable costs by channels (production plus allocated distribution costs) for these sales. In this way, we determine the differences in profitableness between different classes of customers. These figures confirm what we may have suspected for some time, namely, that customers in channel D are, on

[1] For further details on classification of distribution costs by functional categories and on the bases for their allocation to specific segments of a business, see Charles H. Sevin, *Distribution Cost Analysis* (Washington, Government Printing Office, 1948).

the whole, unprofitable. But the analysis also points up something of which we were not aware: the poor showing of customers in channel C.

We turn our attention to customers in channel D first. Total sales revenue is actually less than variable or out-of-pocket costs, leaving nothing for fixed costs or net profit. Moreover, the results are no better when we project these cost trends to a higher sales volume, and even worse at lower levels of volume. We decide that there is nothing we can do to make this group of customers profitable; even the larger ones are sold at a loss. Therefore, we decide to eliminate this entire channel of distribution.

As for the customers in channel C, we classify them into groups according to amount of purchase. Allocating the variable costs to each group, we find that for the large customers there is a profit margin over variable costs. It is the customers purchasing under $10,000 who cause the unfavourable showing for the entire channel. The next step is to review with our salesmen every single class C account with an annual volume of less than $10,000 and to cull out all those whose future potential does not promise to make them profitable.

These planned changes in our channels of distribution should increase net profits. But they leave us with the same dollar fixed cost, which would be larger relative to a smaller total sales volume. In other words, the elimination of unprofitable sales would leave us with idle manufacturing and distributing capacity.

MATHEMATICAL PROGRAMING NEEDED

Therefore, our next step is to plan to utilize this idle capacity by increasing our sales pressure on the profitable accounts in channels A, B, and C. Of course, we realize that this increase in sales could not be accomplished in one year, and it could not be obtained without added out-of-pocket expenditure for sales promotion. Another complication is that machine capacity is limited for some types of the remaining profitable products.

Accordingly, at this stage of the game, we decide to use mathematical programing to aid us in coming up with the right answer. Programing (both linear and nonlinear) is entirely a mathematical technique. By itself it can never tell us anything about the operation of the business, but it is a potent tool when used in conjunction with data from a distribution cost analysis.

When operating at a high output level, a firm is likely to run into a variety of limitations of marketing or production capacity, some of which may be prohibitively expensive (or even impossible) to eliminate in the short run. As we have seen, an important characteristic of such a situation is that the marketing of a relatively unprofitable item which makes liberal use of the scarce facilities may take up valuable capacity that can better be used for other purposes.

In such a situation, what does programing do that other techniques cannot

do? In many cases the standard mathematical optimization technique—the differential calculus—can, given adequate data, indicate precisely what is the maximum profit or minimum cost achievable. But in some problems of optimization there is a complication in that the outcome, to be acceptable, must meet certain specifications which the mathematician calls "side conditions" or "constraints."[2]

Let me explain this further. It is characteristic of many marketing and other business problems that specifications are not precise. Management may provide only (1) *minimum* requirements that must be met, or (2) rather than stating the precise extent to which a facility will be used, the *maximum* capacity which is available. In such cases the side conditions or constraints are "inequalities" rather than equations (as in the calculus). That is, they do not state that X must equal 500 but only that X must be no less than 250 or no greater than 500. For example :

It may be most profitable for a firm to sell 10,000 units a week. This is, then, a sort of optimum. However, if the firm's warehouse can efficiently stock only 8,000 units, the optimum is an unattainable goal, and it becomes necessary to recompute a more modest and practicable target. The aim is to find the most profitable combination of sales which do not violate the "inequality side condition" that inventory must be less than or equal to 8,000 units.

Programing is the mathematical method for analyzing and computing the optimum allocations of effort which do not violate the limitations imposed by inequality side conditions. In other words, it attacks the same problem that distribution cost analysis seeks to solve. Its purpose is to find a pattern of marketing effort allocation which maximizes profits and yet does not exceed the available (short-run) capacities of the firm.

Mathematical programing thus consists of two essential parts : (1) something which is maximized (e.g., profit); and (2) the inequality side conditions. As for the first, it is generally assumed that the business is trying to maximize the sum of the gross dollar margins in the various segments of sales minus the sum of their variable costs. As for the inequality side conditions, they describe the various short-run limitations imposed on the firm by a fixed advertising budget or sales force, limited warehouse space, and other factors.

There will be an inequality which corresponds to each of these limitations. For example, an inequality may state that the amount of warehouse space used by the various sales segments must not exceed the available capacity. If, say, the warehouse space used for finished goods inventories is strictly proportional to the sales in each category, the inequality may be stated as follows in mathematical terms :

[2] For a fuller discussion of this and certain other points that follow, see William J. Baumol, "Solution of Management Problems Through Mathematical Programing," *Cost and Profit Outlook,* Volume IX, May 1956. (Alderson & Sessions, Philadelphia.)

$$a_1(W)+a_2(X)+a_3(Y)+a_4(Z)\leqslant A$$
$$b_1(W)+b_2(X)+b_3(Y)+b_4(Z)\leqslant B$$
$$c_1(W)+c_2(X)+c_3(Y)+c_4(Z)\leqslant C$$

Where A is the available warehouse space, B is the available sales force time, C is the budgeted advertising funds; and where $a_1(W)$ is the warehouse space used by W sales, $a_2(X)$ is the space used by X sales, $b_1(W)$ is the salesmen's time used by W sales, $c_1(W)$ is the advertising budget for W sales, and so forth. (For illustration it is assumed that there are exactly four sales segments.)

STIPULATIONS FOR MATHEMATICIAN

There remain two stipulations that must be made before the mathematician takes over. First, we must specify that sales in any segment can fall to zero but can never be negative, or:

$$W\geqslant 0,\ X\geqslant 0,\ Y\geqslant 0,\ \text{and}\ Z\geqslant 0$$

This apparently trivial requirement is fundamental for the mathematical analysis. One reason is that the computations are usually done by electronic calculators. They may do computations quickly, but they do not realize (unless told so specifically) that negative sales are out of the question. If some particular sales segment is especially unprofitable, the machine will figure out that the less the firm sells in that segment, the better off it will be. But if so, why stop cutting down when we get to zero? Unless instructed otherwise, the machine is very likely to end up recommending negative sales in unprofitable segments !

Secondly, we must specify that the nature of the problem may change so that a cost once fixed can become, in the long run, variable. When this happens, the corresponding limitation disappears. In a planning problem, for instance, if the present sales force would be inadequate for increasing sales, the addition of new salesmen might be considered by the planners; and then the amount of selling expense would vary with the amount of sales. The effect on the mathematical program is simple; the corresponding inequality is dropped, and the variable cost figures in the profit expression are increased to include the new variable costs.

In almost all cases the actual method of mathematical computation is a so-called "iterative procedure." This term is used to designate a systematic trial-and-error procedure. The answer to a programing problem will ordinarily not be arrived at directly. Instead, the solution is found by groping toward it. The trial-and-error procedure is not, however, pure guesswork. It is systematic in that it usually involves at least the first two of the following features and perhaps also the third :

1. There is a mechanical rule which determines, after each step, exactly what the next step is to be on the basis of the results of the trial just com-

pleted. One advantage of this method is that it makes electronic computation possible. A mechanical rule stating what must be done at each succeeding trial in the trial-and-error procedure is useful because in a problem complicated by the very great number of variables and inter-relationships which it involves, human judgment can go very badly wrong; and this can result in a very inefficient, even a totally ineffective, search for the answer.

2. A second feature which usually characterizes the systematic trial-and-error procedure is a proof that the method has been constructed in a way which guarantees that each trial will yield values which are closer than the last to the correct answer.

3. For a large class of problems there are available trial-and-error procedure rules which are guaranteed to yield precisely the correct result after a definite number of steps. In other cases where this is not possible, one can hope to calculate a maximum error which says, for example, that the result of the most recent trial is at most one-tenth of 1 per cent from the correct answer. The desirability of these features of an iterative computational procedure is obvious.

FAILINGS OF LINEAR PROGRAMING

The word "programing" most frequently occurs in the term "linear programing." When the facts of the situation state that costs will always be proportionate to sales so that, for example, a threefold increase in the level of sales in any one segment will always exactly triple all the costs incurred by the segment, the problem is said to be linear. In a linear case there are great economies in data collection and computation.

Linear programing has practical uses in distribution cost analysis, but to appreciate them it is necessary to look first at its limitations. To begin with, it rarely fits the facts. If pursued to its logical conclusion, it is virtually certain to give the wrong answer. One reason is that, in marketing various costs involve "quantity discounts" or "nonlinearities." For example, if we ship one-third of a carload of goods, the less-than-carload rates apply, and it will cost considerably more than one-third the amount required to ship a full carload. It is easy to think of other costs which do not rise strictly in proportion with sales. For instance, inventory levels, and hence the costs of storage, do not usually rise in proportion to sales volume; neither does the cost of sales management.

Moreover, linear programing has an inherent bias which often leads to seriously incorrect answers in the re-allocation of marketing effort. It usually suggests the elimination of a large number of sales categories; for example, it may suggest that a firm end up selling to only a certain type of retailer and in only a few major cities. This happens because of the basic theorem of linear programing, which in effect states that if there are, say, just three inequality

side conditions in a problem, then maximum profits can be obtained by confining sales to no more than three sales segments. To illustrate :

If we are trying to get the most out of our warehouse capacity, our salesmen's time, and our advertising expenditure, linear programing would lead us to concentrate on three sales segments—one which produces large profits per square foot of warehouse space, another which returns large profits per salesman hour, and a third which yield high returns per advertising dollar. Any types of sales which are second best to these three would be eliminated. Of course this is wrong. For one thing, there are diminishing returns to marketing effort; markets become saturated.

PRACTICAL COMPROMISE

All of this is not to say, however, that linear programing has no uses. Quite the contrary. While a linear program usually will not compute a correct optimum because the changes it suggests will go too far, there is yet a very strong presumption that it will correctly indicate the best *directions* of change. It will identify correctly the sales segments to which more effort should be allocated. Accordingly, where it is too expensive to undertake a full-scale nonlinear programing analysis (which is the ideal approach), or where the necessary data are simply not available, linear programing can still be exceedingly helpful.

When the available information points out a very marked case of misdirected effort, marketing executives can proceed confidently to take remedial action, for no small error in data and computation will account normally for the considerable losses which distribution cost analysis often reveals. In sum, even fairly inaccurate data and fairly crude computational techniques will usually turn up those inefficiencies which are most glaring and which constitute the most important opportunities to increase profits.

Accordingly, even though they may not have the data, the time, or the budget for a broad mathematical programing analysis, managers usually still can obtain much of the benefit of a distribution cost analysis by using a linear programing approximation. Thus, the principles of mathematical programing will, when used in conjunction with the results of a distribution cost analysis, help management to achieve in its markenting operations a marked increase in efficiency and substantially higher profits.

53 / *A Practical and Proven Measure of Advertising Effectiveness*

MICHAEL H. HALBERT

This article discusses a research project conducted by the E. I. Du Pont de Nemours & Co., Inc. to define the goals of the company's advertising as well as provide ways of measuring how well they were attained. While the project was not an unqualified success, it did provide data not previously available which was used to increase the company's profits.

"Advertising effectiveness' is a curious phrase. It is at once both exciting and somewhat embarrassing to advertisers, researchers, and management. It is exciting because of its promise, but embarrassing because of its elusiveness. There has been a lot said and written about advertising effectiveness, and some attempts have been made to measure it. But to measure the effectiveness of any activity, we must have a clearly stated goal for it and some way of telling how close it is to attaining that goal.

There also has been much said and written about the goals of advertising, and its function in marketing. Some people treat it as a communication device, and evaluate it in terms of reach or exposure, impact or learning, and retention or memory. To other researchers this approach seems somewhat passive, so they emphasize attitude change and measure how much potential customers like the advertised product or company.

There are still other approaches to defining the goals of advertising and measuring their degree of attainment, but very seldom are these approaches the same from company to company, from agency to agency, or even from project to project.

A PROJECT TO MEASURE ADVERTISING IN PROFIT

This is a report of the theory, conduct, and results of a research project conducted at Du Pont during the last few years. In retrospect, the starting point for the project was the serious attempt to develop a realistic measurable goal for advertising. Such a goal exists. It is a goal that makes sense from the point of view of general company management, sales executives, adver-

SOURCE : From *Management Challenges and Research Responses : Proceedings, 6th Annual Conference* (New York : Advertising Research Foundation. Inc., 1960), pp. 77-82. Michael H. Halbert : Operations Research Specialist, E. I. Du Pont de Nemours & Co., Inc.

tising people, agency personnel, and media men. It is the same yardstick that is applied to pricing decisions, inventory decisions, new plant investment, and every other phase of business activity. It is return in dollars—profit.

In the final analysis, the only justification for spending money—spending it for advertising or for anything else—is that money will come back in. A company management has as its prime responsibility to its stockholders the investment of their dollars at a profit. If advertising is evaluated in terms of, say, recall exposure, the evaluation is always open to the question, "So what?" The answer usually given is, "If more people recall your ads, more people will probably buy your product, and profits will probably go up." This answer may well be greeted with a skeptical, "Probably". But if advertising is evaluated in terms of profit, and someone still asks, "So what?" the answer is a firm, "That's what we're in business for."

This idea of measuring the effectiveness of advertising in terms of profit certainly is not new, but the reason it has been used so seldom is that it is extremely hard. One of the reasons it is hard is that it requires the researcher and his client to make definite statements about the relationship of advertising expenditures to profits. These statements have to be testable by experiment, and this presents the stumbling block for most so-called advertising experiments. Many projects that are called advertising experiments are really advertising measurements, but there is a real difference between an experiment and a measurement. If I have a theory that high impact advertising creates sales, an experiment designed to test this theory would require, at the very least, the creation of several ad campaigns of different degrees of impact (and obviously, an unbiased way of *measuring* this impact), then the use of these campaigns at different times, or in different markets, or for different products, and the analysis of the sales results to see if the differences in these results should be credited to differences in ad impact, or were due to differences in time, cities, products, or only to chance. This series of experiments, with its concomitant measurements, would allow me to accept, modify, or reject my theory.

In contrast, a measurement based on that theory might tell me that some ads have high impact and some have low. Even if the high sales for one company went with high impact ads and low sales for another company went with low impact ads, no theoretical assertation could be made about the *causal* relation.

It is easy to see from this oversimplified example why few real experiments are conducted in advertising. It takes time, money, and a high degree of cooperation by management to secure the information that only experiments can yield. But this information is essential to the successful conduct of a business. How else can management make rational decisions? At least once a year the major decision of the size of the total budget comes up. Obviously, the correct budget is that one that maximizes profit. But how can we tell what the profit will be from any particular budget? How can

we make sensible decisions in such a complex, dynamic, and emotionally controlled area?

NEW GUIDE TO DECISION-MAKING IS OPERATIONS RESEARCH

The last ten years have seen the emergence of a new scientific discipline designed to provide rational guides for decision-making in complex areas, where, at best, information is incomplete. This discipline is called operations research, and many universities now offer graduate degrees in it. This discipline is a blend of mathematics, engineering, logic, philosophy, and common sense. You've probably heard of linear programing game theory or inventory control. These are all special problem areas within O.R. Let's look at O.R. and see how it works and how it can be applied to measuring advertising effectiveness.

Figure 1

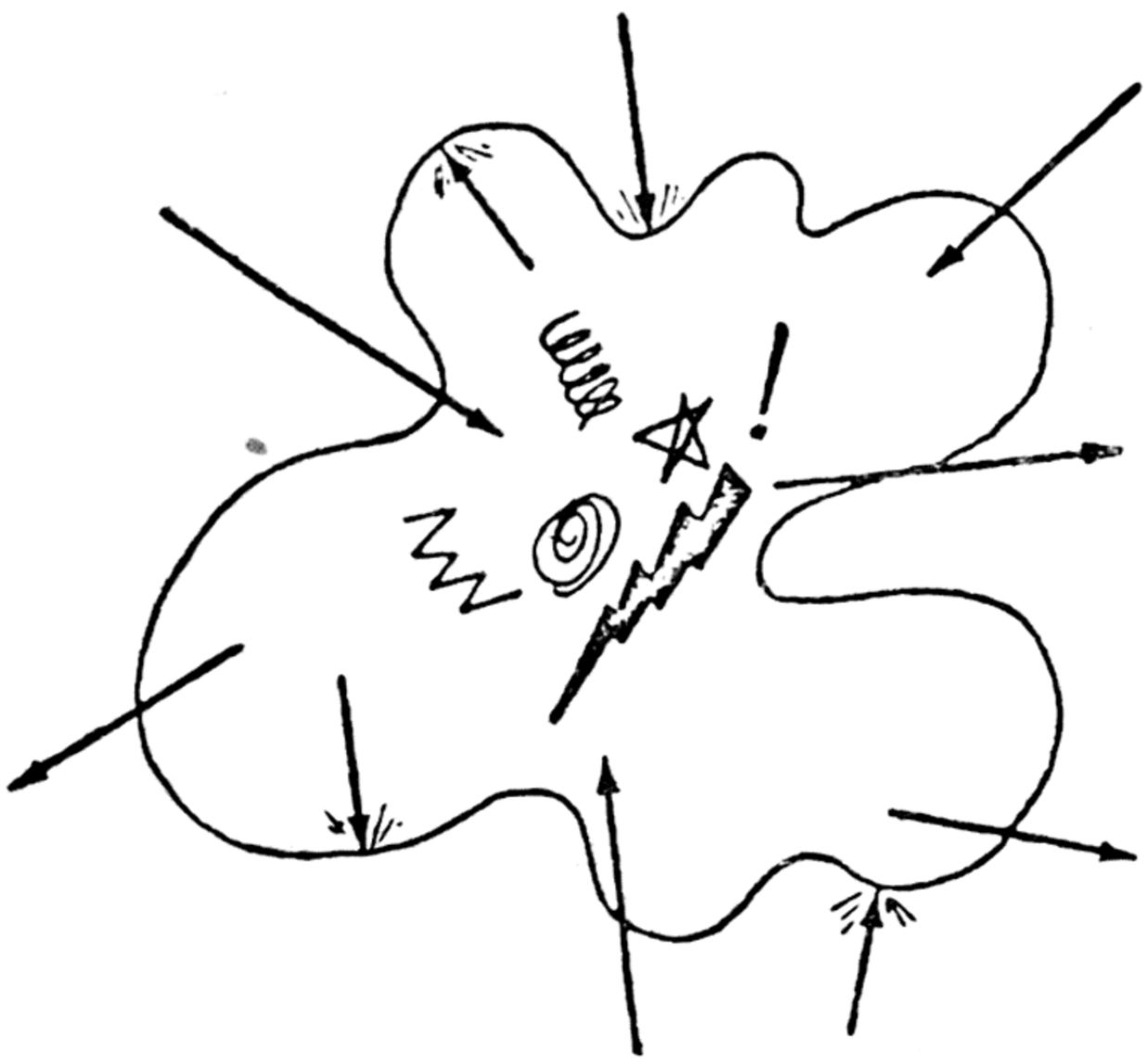


Figure 1 shows a real functioning system. It looks like a swearing amoeba and if we try to understand it by looking at this system in all its complexity, we may feel like swearing too. An operation researcher isn't opposed to swearing, but in this case the swearing doesn't help. What does help is to try to describe the system in terms of a model. "Model" is a word that the operations researchers have borrowed from physics and mathematics and it means an explicit symbolic representation of a real system. The essential characteristic of a model is that, with respect to those aspects of the system of interest to the researcher, *the model behaves like the real system.* There are all kinds of models, and they are useful for different purposes. An architect may use actual physical models in laying out a floor plan for a new depart-

ment store. The accountant concerned with the same new store may be concerned with the costs, revenue, cash flow, and amortization of the store, and his model may be a set of balance sheets. The store manager may use a model involving relationships among personnel requirements, material inventories, advertising and promotion costs and timing, and his own year-end bonus. When we form our model for the system of Figure 1, we must abstract, that is, we must leave out, those aspects of the system which only add confusion. To do this, we must decide which functions of our amoeba are relevant.

Figure 2

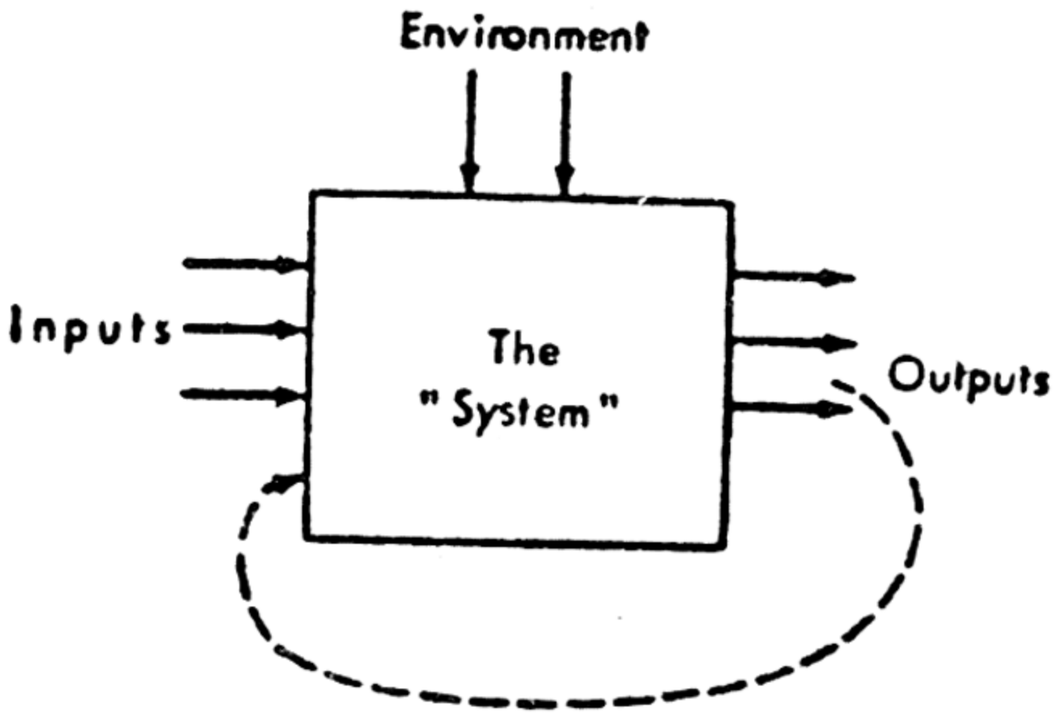
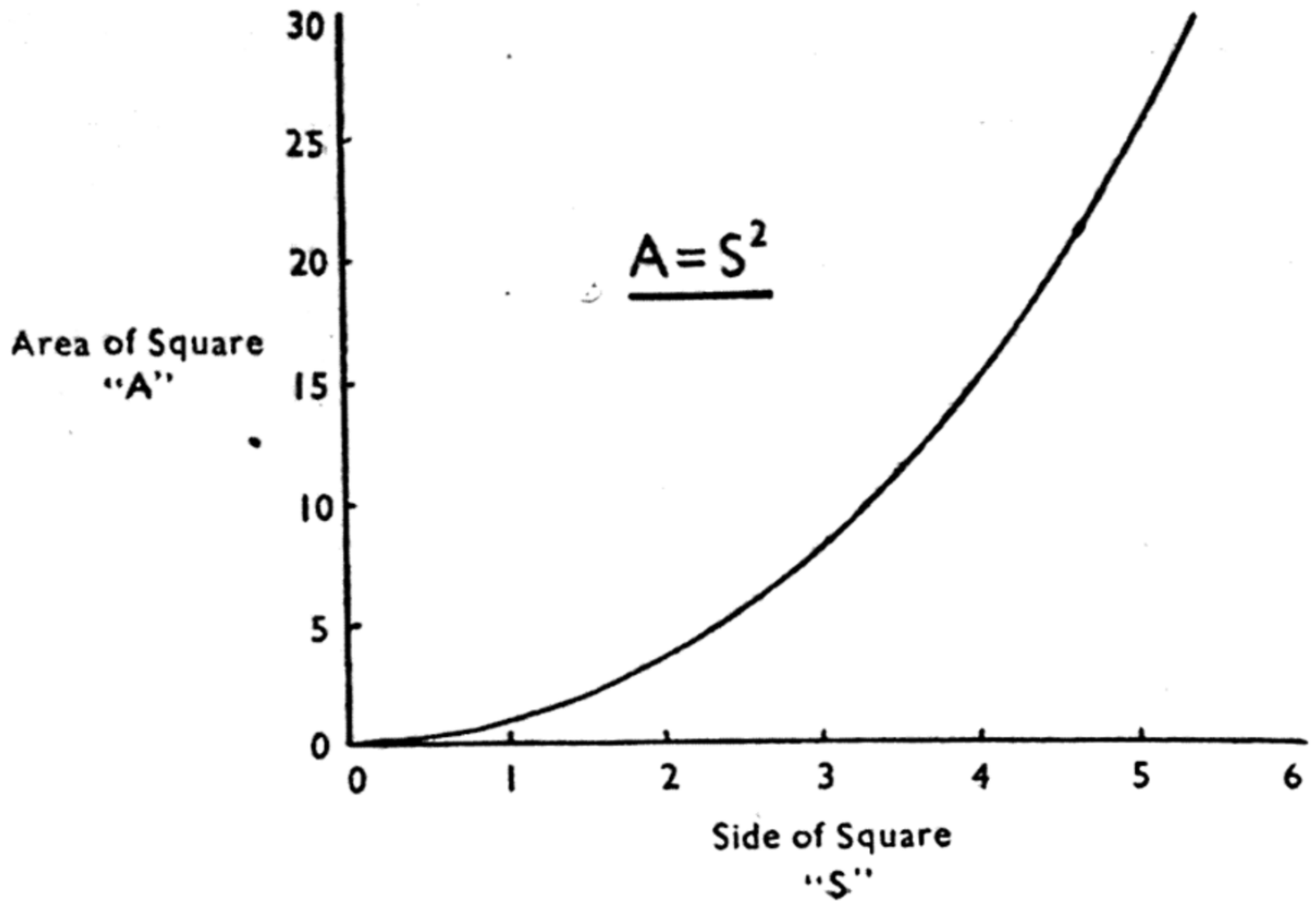


Figure 2 shows this schematic form. A convenient way to look at any system is to consider it a collection of related inputs, outputs, and environment. The *inputs* stand for those aspects of the system that are controllable. In the model of an advertising system, these inputs are primarily how much to spend and how to spend it. The *outputs* are the goal aspects of the system—what we want to get out of it, what we want the system to do. I have indicated before that the output *profit* is the one that should be given precedence. We can also measure market share, attitudes, etc., and the reason for showing more than one output arrow is that in a real system we are always interested in more than one output. Even if we focus our attention on profit, we still must consider short range versus long-range profits, before or after taxes, effects of interest or discount rates on past expenses, and future profits. Also, which of the many ways of measuring profit are we going to choose? Net profit this year? Change in net worth? Return on investment? We shall pick that measure most meaningful for the problem at hand, and most relevant in terms of our control variables—our inputs. The arrows for the environment represent those variables that affect your system but are not controllable. In advertising these variables are everything from general economic conditions and competitive action to the weather in Cleveland and the editorial copy on the page of the *Post* opposite our ad.

When you structure our problem this way, one thing becomes obvious. Whether a particular factor is to be considered as an input variable or as a part of the environment depends on the scope of problem. The number of salesmen, the product price, and distribution, as well as product quality, may be taken as fixed if we want only to study one aspect of advertising, but they well may be considered as controllable when we turn our attention to the whole marketing process. The dotted arrow indicates that the outputs

(profit, for example) may become, in turn, inputs (money available for next year's budget).

Figure 3



Some systems are easy to model, some are hard. Figure 3 shows the graph and the equation for the relationship between the length of the side of a square and its area. The relation is simple, the graph is simple, and the equation is simple. If I ask you to describe this relation to me, you can do it, completely and accurately, in one sentence. To find the area of a square, multiply the number representing the length of a side by itself and the result is the area.

But I don't know anyone who can describe the relation between advertising and market share in one sentence—or in 100.

EQUATION ON ADVERTISING— MARKET SHARE RELATIONSHIP

Figure 4

$$\frac{S_t}{S_t + S_t^1} - \frac{S_{t+1}}{S_{t+1} + S_{t+1}^1}$$

$$= \sum_{t=0}^{\infty} \left\{ \left[\left[\frac{m!\, m \, \frac{10S_{t+1}}{S_{t+1}+S_{t+1}}}{\left(\frac{10S_{t+1}}{S_{t+1}+S_{t+1}}\right)!} \right] \left[\left(\frac{e^{-K_A K'_A}}{t!} \right) \beta_A \left(\frac{A_t}{A_t + A_t^1} \, \frac{A_{t+1} + A_{t+1}^1}{A_{t+1}} - 1 \right) \right. \right. \right.$$

$$\left. \left. + \left(\frac{e^{-K_D K'_D}}{t!} \right) \beta_D \left(\frac{R_t}{R_t + R_t^1} \, \frac{R_{t+1} + R_{t+1}^1}{R_{t+1}} - 1 \right) \right] \right\}$$

$$+ \beta_P \left[\frac{\bar{P}_t - P_t}{(\bar{P}_{t+1} - P_{t+1}) \sigma P_t} \right]$$

Figure 4 shows an equation that represents part of this relationship. This equation was developed in the early stages of this project to show the time structure of advertising, price, distribution, and competitive action as they affect changes in market share. It was later discarded because a better, more realistic (and unfortunately, more complicated) equation became necessary. There is no graph because there are over a dozen variables and it is difficult to draw that many dimensions. In formulating a model of the advertising-profit relationship, it is important to include all the relevant variables, and to leave out all the irrelevant ones. But in order to decide which variables are relevant, a theory of advertising is needed.

To develop a theory of advertising, let me start in the way that most theories are started, by analyzing the situation as it exists, i.e., let us look at our swearing amoeba again. Or, to translate the figure of speech into our advertising system, let us look at the relationship between advertising expenditures and profits from whatever data we have collected in the past. If we look at this relationship from an unprejudiced point of view and start to ask "Why", most of our answers, or attempts at answers, at any given time center around our market share and our competitors' market shares. When we look at the market at some later time, not only have these market shares changed a bit, but their composition has also altered.

Figure 5

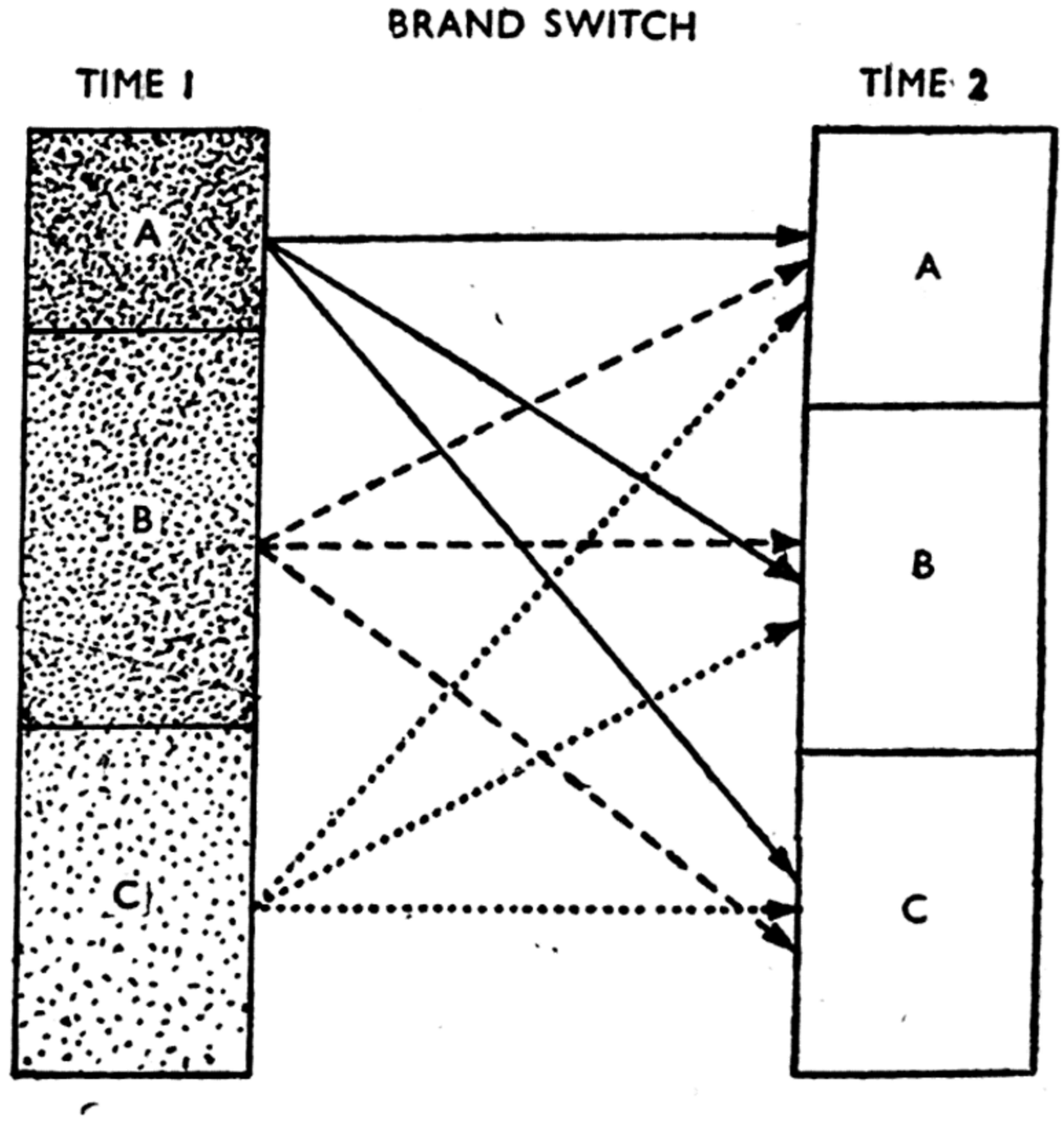


Figure 5 shows this simple but not trivial way of looking at a market. For simplicity's sake, we are considering three bands only, and at Time 1 they are taken to represent the total market. Obviously from Time 1 to Time 2 some people have switched from Brand A to Brand B and some

people have gone from Brand A to Brand C. However, as indicated by the uppermost arrow in the figure, some people have remained loyal and purchased Brand A at Time 2 as well as at Time 1. Of course, this is what is conventionally called brand loyalty. If, then, we wish to predict our sales or our brand share at Time 2, we could do it completely if we knew our brand share at Time 1 and how many people did remain loyal, how many people we would lose *to* Brands B and C, and how many people we would gain *from* Brands B and C. Fortunately, there is an area of modern mathematics that enables us to utilize data in this form for very powerful analyses. It is known as transition probability analysis, or by the name of its Russian inventor, Markov analysis.

Figure 6

BRAND SWITCH

FROM	TO A	TO B	TO C	TO None
A	7	1	1	1
B	1	4	3	2
C	0	0	9	1
None	1	7	0	2

Figure 6 repeats the structure of Figure 5 in numerical form and enables us to deal with a more general aspect of market structure, i.e., market growth. In Figure 6 we have added a "None" row and column to our table so that we can allow for changes in the size of the total market. The market as a whole can gain customers or can lose them. You will notice that the numbers in each *row* add up to ten. They were chosen to represent probabilities, and the upper left-hand number, seven, indicates that 70 per cent of A's customers repurchased Brand A in the second period of time, 10 per cent of A's customers purchased Brand B in the second period, while 10 per cent went to Brand C. The remaining 10 per cent did not buy any brand of the product under consideration at Time 2. If we read the rest of the table we find that Brand B had a brand loyalty of 40 per cent, Brand C of 90 per cent, and that of the *potential* customers we are considering in the row labeled "None," 20 per cent still had made no purchase by Time 2.

TABLE SHOWS MANY ASPECTS OF MARKETING STRUCTURE

Many additional aspects of the marketing structure can be learned from looking at this table. For example, while Brand B has the lowest brand loyalty, only 40 per cent, yet it is the route for most *new* customers who come into the market, since the table shows that 70 per cent of the potential customers who did not purchase in Time 1 did purchase Brand B at Time 2. Brand B then represents an easy entrance to the market for customers but has little retaining power. The obvious implication for its advertising and promotion policy is to attempt to increase brand loyalty rather than to attempt to attract new customers. B and C is in the enviable position of not only having a 90 per cent brand loyalty, but in losing no customers to Brand A nor to Brand B, its two competitors. And of course of the 10 per cent it loses to "None," 70 per cent of them will try Brand B in the next period, and 30 per cent of those customers will switch from Brand B to Brand C in the following period. If these brand switch probabilities remain constant throughout any appreciable period of time, then it is mathematically simple to project brand share and absolute sales for the future, and so to tell where the market is heading and how rapidly it will get there.

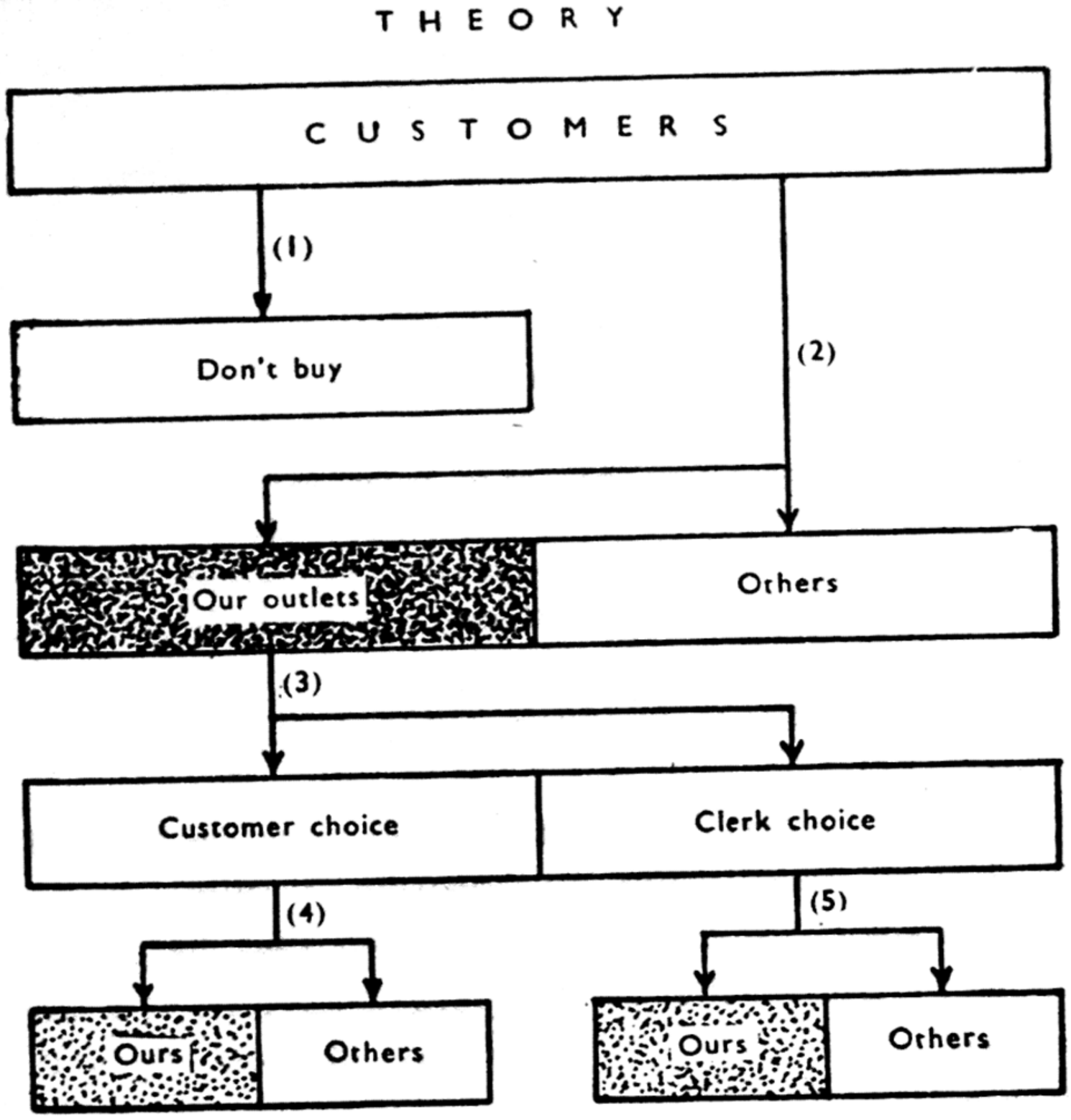
The"if" in the previous sentence is a big one. Market structure is not so simply modeled as Figure 6 suggests. The brand loyalties, the capture rates, and the loss rates are not constant. They depend on many aspects of market dynamics. And these, in turn, depend on the inputs or controllable aspects of a company's marketing program. Advertising, promotion, packaging, channels of distribution, pricing, allocation of salesmen's efforts, etc., can all affect brand loyalty and brand switch probabilities.

At this point in the study we had to turn to field experimentation. Since we had derived from our theory rather precise knowledge of what it was we wanted to test, we were able to design and conduct an advertising experiment lasting many months. Different amounts of advertising effort were directed into different sales territories and data were collected as to the initial market shares and to the changes in market share as they occurred during the experiment. This part of the measurement program required over 70,000 customer contacts.

In addition to the brand share data, we also measured the initial distribution pattern and the changes in the distribution pattern during the course of the experiment. This was required since we had hypothesized that not only did advertising have a direct effect on consumer behavior, but it also had an indirect effect through changes in the distribution structure.

Figure 7 shows a simplified-distribution chart which indicates the choice points at which advertising *might* have an effect on brand switch and market share. An initial group of potential customers may in the succeeding time period either buy or not buy. Presumably advertising can affect the

per cent of buyers. This is shown as decision point 1 in the figure. Of the customers who do buy, some may buy through retail outlets carrying our



brand and some may buy through retail outlets that do not carry our brand. This is decision point 2. Of those who buy from retail outlets that carry our brand, some may be heavily influenced in their brand decision by the retail clerk and some may have their mind made up as to brand when they enter the store. This is decision point 3. Of those customers who are purchasing in a retail outlet that handles our brand and who are making the choice on their own, some will ask for the Du Pont brand, some will ask for a competing brand. This is decision point 4. And, finally, of those who are influenced in their decision largely by the retail clerk and who are in a retail outlet that handles the Du Pont brand, some will be given the Du Pont brand, some will be given a competing brand. This is decision point 5.

FIVE KINDS OF INFLUENCES OF ADVERTISING EXPENDITURES

Our conception of the advertising effect then is that there are five kinds of influences that our advertising expenditures might have :

1. Advertising might encourage more customers to buy this product class.
2. Advertising might either encourage customers to shop in retail outlets

that handle our brand or it might encourage more retail outlets to handle our brand.

3. Advertising can be used to get more people to make the brand decision themselves or to leave it up to the clerk. It might be noted at this point that in some situations it is advantageous to get people to leave it to the clerk since clerks might be more brand loyal than customers.

Figure 8

Results

I. We can predict market share for each sales territory.
Accuracy $(X \pm 1)\%$
II. We can predict the profit from any advertising budget level.
III. We can compare profits from advertising among different sales territories.

4. The obvious direct effect of advertising is to get more customers to specify our brand.

5. Another effect of advertising expenditures may be to make retail clerks recommend our brand rather than competitive brands.

Most of the time spent in this study was devoted to the design, conduct, and analysis of the results of the field experiment. This is difficult, expensive, time-consuming work, but not of particular interest in a discussion or a report such as this.

What, then, were the results of all of this effort? Was the underlying theory confirmed and were the results useful in terms of recommendations and action on advertising decisions? The theory was partially confirmed by the experiment. Market dynamics do not permit any theory, so far as we know, to be permanently and absolutely confirmed. However, as Result I in Figure 8 indicates, for this product class we can predict the market share for Du Pont and for each of its major competitors with a surprisingly high degree of accuracy. This prediction can be made utilizing the knowledge of advertising expenditures in the territories and the distribution structure in the territories. Once we can predict market share and thus total sales, we can compute the gross profit for any suggested advertising budget level. Since we know our marginal cost for any production level, we can then compute the contribution to gross profit for any advertising budget level. This enables us to recommend changes from period to period in the total budget for this product's advertising. Result III in Figure 8 says simply that we can perform the same analysis for each sales territory and therefore balance our advertising effort as a function of the market share, the advertising levels, and the distribution dynamics of each territory. In the particular case studied, it was found that the efficiency of our advertising could be greatly increased by reallocation of advertising expenditures.

SUCCESS AND SHORTCOMINGS OF THE PROJECT

This report may seem to suggest that this project was an unqualified success. In the sense that it supplied information not previously available that can and is being used to increase profit, this is so. Yet, let me temper these claims with some remarks as to what this project did not discover.

Figure 9

Action

I. The results are being used
II. Continuous re-evaluation
III. Refinement and modification

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We only investigated and measured a few of the important aspects of market dynamics. Changes in the general economic pattern of consumption, radical changes in price or distribution, major actions by competitors, significant changes in product quality characteristics or packaging, were not investigated. Nor were the variables associated with specific media or product claims investigated. We had decided that it would be enough to measure dollars in this first experiment. Refinement and additional variables will come later. In the future these and other factors may exert increasing and perhaps decisive influences on brand share, sales, and profitability. At the present they do not, as evidenced by our ability to predict market share with such accuracy.

However, the results of any experiment are extrapolated to the future with the full knowledge and understanding that the future is never a complete repetition of the past. Thus, as Figure 9 shows, the study will in a sense go on forever, just as chemical research, quality control, and market research in any company are continuous activities. The results are, however, being currently used to increase company profit by a measurable amount. At the same time special data are being collected to re-evaluate the theoretical structure and the particular variables determined to be important from our experiment. And finally, as we learn more about the effect of advertising on sales and profits, we shall continuously review our theory and our model to incorporate this additional knowledge.

The project was a success not only because it helped make rational decisions about the advertising budget for this product, but because it showed that the scientific method can successfully be used to tackle one of the most important business problems of today. Research in projects of this kind are one of the most profitable investments a company can make, as detailed and accurate information about market dynamics becomes the competitive advantage of the future.

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